PROJECT: 63-01

OFFSITE SUBSURFACE INVESTIGATION
POWERINE REFINERY
SANTA FE SPRINGS, CALIFORNIA

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CERTIFICATION

I certify that the work presented in this report was performed under my supervision. To the best of my knowledge, the data contained herein are true and accurate, and the work was performed in accordance with professional standards.

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CHAPTER 1

INTRODUCTION

Powerine Oil Company (POC) owns a refinery at 12354 Lakeland Road in Santa Fe Springs, California (Figure 1-1). The refinery is bounded by a closed drive-in movie theater and the Metropolitan State Hospital (MSH) to the south, industry to the west and east, and commercial development and office buildings to the north. A crude oil production field is also to the north (upgradient) of the refinery.

At the request of the Regional Water Quality Control Board (RWQCB), POC expanded its existing network of groundwater monitoring wells. The focus of the investigation was to characterize the offsite groundwater quality and flow direction. In addition, POC identified possible sources of groundwater contamination not associated with POC activities. The investigation included:

- Subsurface soil sampling and analysis;
- Monitoring well installation; and
- Groundwater sampling and analysis.

The soil sampling, monitoring well installation, and groundwater sampling for organic parameters were conducted in December 1995. Groundwater sampling for lead was conducted in December 1995 and January 1996.

1.1. Site History

A small refinery was built at the site in the late 1930s. Before construction of the refinery, crude oil production wells and unlined sumps (unrelated to POC activities) occupied areas of the refinery. Until 1968, the refinery was a 7,000-barrel per day (bpd) operation with distillation and thermal cracking. In 1968, POC increased refining capacity to 27,000 bpd with the addition of a catalytic cracker and alkylation units.

In 1974, POC increased refining capacity again to 44,000 bpd with addition of a second crude unit. In 1982, additional hydrotreaters, a hydrocracker, sulfur recovery units, a coker, coke storage, and additional tankage were added. The refinery was upgraded in 1994 to produce reformulated gasoline. In July 1995, POC shut down refinery operations except for some product storage and maintenance of existing equipment. Refining operations may resume in the future.

The refinery processed crude oil and raw naptha to make gasoline, diesel, jet fuel, and other fuels. Coke and sulfur were produced as refining by-products and

shipped to customers. The area south of Lakeland Road contains the main office building and truck loading facilities. The area east of Bloomfield Avenue contains the coke storage area and gasoline, jet, and diesel storage tanks. The remaining areas contain the processing units and crude oil, intermediate, and product tanks. The refinery units are shown on Figure 1-2.

1.2. Previous Assessment and Remediation Activities

RWQCB issued Cleanup and Abatement Order (CAO) 85-17 to POC and 14 other petroleum refineries in 1985. In the CAO, RWQCB required the refineries to:

- Define the nature and extent of free-floating hydrocarbon and impacted groundwater.
- Define the nature and extent of soil and soil vapor impacts.
- Provide information on subsurface geology and aquifer hydraulic properties.

POC submitted a workplan to RWQCB in May 1985 (IT Corporation, 1985) to conduct assessment activities. POC completed the investigation required by the CAO in the summer of 1985, except that the offsite extent of groundwater quality impacts was not completely defined. The results of the 1985 investigation were submitted to the RWQCB in January 1986 (IT Corporation, 1986).

In 1987, RWQCB requested that POC install offsite wells to define the extent of groundwater quality impacts and begin a program to recover free-floating hydrocarbon on the groundwater beneath the refinery. After about 2 years of negotiation, and with the assistance of RWQCB, POC gained access to down-gradient sites on the MSH property. POC installed the offsite wells in the summer of 1990. Data from the offsite wells were beneficial to further define the extent of groundwater quality impacts.

POC began hydrocarbon recovery in the summer of 1990. Hydrocarbon thicknesses in all POC monitoring and recovery wells were near or below measurable limits during the most recent monitoring events. Hydrocarbon recovery was discontinued in 1991 due to the absence of recoverable free hydrocarbon in the wells.

In July 1994, POC submitted a workplan to RWQCB to conduct an offsite investigation of groundwater quality (TriHydro, 1994). In August 1994, RWQCB approved the workplan. Well installation began 1 year after workplan approval due to negotiations with the State of California for access to the downgradient MSH.

1.3. Investigation Objectives

POC conducted this additional subsurface investigation from December 1995 to January 1996. The investigation focussed on:

- Determining the extent of refinery-related groundwater contamination downgradient of the refinery;
- Further characterizing upgradient groundwater quality moving onto the refinery;
- Assessing groundwater quality downgradient and cross-gradient of the Torco and Walker properties; and
- Characterizing soil quality at the well locations.

To accomplish these objectives, POC:

- Installed five groundwater monitoring wells downgradient from the refinery at MSH;
- Installed three monitoring wells at the north and east refinery boundaries;
- Collected three soil samples from each well borehole for chemical analysis;
- Collected water samples from the eight new monitoring wells and 15 previously existing POC wells for chemical analysis; and
- Studied the analytical data to determine water quality trends and possible sources of contamination.

CHAPTER 2

METHODS OF INVESTIGATION

POC conducted a subsurface soil investigation between December 12, 1995, and January 10, 1996, to evaluate groundwater quality upgradient and downgradient of the refinery. POC analyzed data generated during previous investigations at the refinery to develop an efficient and effective subsurface investigation plan. The methods of investigation are discussed in this chapter, and the results of the investigation are discussed in Chapter 3.

2.1. Borehole Drilling and Soil Sampling

Eight boreholes were drilled and sampled during this investigation (Figure 2-1). Monitoring wells were then installed in all eight boreholes. Five of the boreholes, MW-603 through MW-607, were installed at MSH to evaluate groundwater and soil downgradient of the refinery. The other three boreholes, MW-105 through MW-107, were installed on the perimeter of the refinery to evaluate the background soil and groundwater quality.

2.1.1. Borehole Drilling

The boreholes were drilled by Layne Environmental Services of Fontana, California, with a CME-95 auger rig and 12-inch outside diameter (OD) hollow-stem augers. The boreholes were drilled and sampled to the groundwater table. To install monitoring wells, the boreholes were drilled deeper beneath the water table. A California-registered geologist supervised the drilling and soil sampling activities.

Soil cuttings generated during borehole drilling were contained at the site in 55-gallon drums. The drums were labelled with borehole name and depth intervals.

2.1.2. Soil Sample Collection

Soil samples were collected at 5-foot to 10-foot intervals through the hollow-stem augers with a 1.5-foot split-spoon sampler. The split spoon sampler was lined with 6-inch brass sample tubes. The soil samples were collected for initial field screening, chemical analysis, and lithologic description. Undisturbed soil samples were retained for chemical analysis in one brass tube. Recovery of undisturbed soil samples in the brass sample tubes minimized the loss of volatile organic compounds (VOCs) during sample collection and handling. The remaining soil was extruded for field screening and lithologic description. The lithologic descriptions were recorded on field log forms. Copies of the completed well logs are included in Appendix A.

The split-spoon sampler was decontaminated before collection of each soil sample. The sampler and brass sample tubes were scrubbed with a brush in a detergent and water wash and rinsed twice with water. The brass sample tubes were then allowed to air dry before use. All drilling equipment used downhole was steam cleaned at the refinery before use and between boreholes. Equipment decontamination water was disposed of in the POC onsite wastewater system.

Upon retrieval of the split-spoon sampler, one brass tube was removed from the sampler. The ends of the brass tube were covered with teflon sheeting and capped with plastic caps. The sample sleeves were then labeled and placed on ice in a cooler. Three soil samples were chosen for laboratory analysis from each borehole based on the field screening results.

2.1.3. Field Screening

An aliquot of soil was collected from each sampling interval for field screening, which involved measurement of total organic vapor (TOV) in the sample headspace. The soil samples were screened in the field for TOV to assist in selecting samples for laboratory analysis and to assess the degree and extent of potential subsurface degradation.

Each sample was placed in a plastic zipper bag for field screening of TOV. The soil sample was shaken in the bag to enhance volatilization and allowed to equilibrate for a few minutes. TOV was measured by inserting the probe of a photoionization detector (PID) through a small opening in the bag and monitoring the headspace vapors. The PID was calibrated at the beginning of each working day with a 100 part per million (ppm) hexane standard.

Field screening results are included in the well logs (Appendix A). The field screening results were used to select soil samples for laboratory analysis. While screening several of the samples, the PID appeared to react to humidity in the plastic bag. The PID indicated very high TOV concentrations, but no or little hydrocarbon odor was observed. In these samples, laboratory analysis confirmed the lack of hydrocarbon contamination.

2.1.4. Soil Sample Analysis

Soil samples were selected for laboratory analysis based on field screening results. Three soil samples were kept for laboratory analysis from each borehole:

- The sample from 10 feet below ground surface (ft-bgs);
- The apparently most degraded sample, based on field screening results; and
- The soil sample collected closest to the capillary fringe.

The soil samples were transported under chain of custody to Jones Environmental Laboratories (Fullerton, California) and BC Laboratories (Bakersfield, California) for analysis. The soil samples were analyzed for:

- VOCs by EPA Methods 8010 and 8020;
- Total petroleum hydrocarbons as gasoline (TPH-G) by modified EPA Method 8015;
- Total petroleum hydrocarbons (TPH) extended carbon range (C_6 to $C_{44}+$) by ASTM Method 2887; and
- Total lead by EPA Method 6010.

All soil analyses were conducted in accordance with EPA SW-846 methods or equivalent. The soil analytical results are discussed in Section 3.1.

2.2. Groundwater Investigation

Groundwater monitoring wells were installed and sampled to assess groundwater quality up-gradient and down-gradient of the POC refinery (Figure 2-1). Five monitoring wells, MW-603 through MW-607, were installed at MSH. These wells were installed to further monitor groundwater quality downgradient of the refinery. Wells MW-604 and MW-607 were installed at the eastern edge of MSH also to monitor groundwater potentially migrating from the Walker property. Well MW-606 was installed to delineate the southern extent of hydrocarbon impacted groundwater. Three monitoring wells, MW-105 through MW-107, were installed at the refinery to monitor groundwater that migrates onto the refinery property.

2.2.1. Monitoring Well Installation

The groundwater monitoring wells were designed and installed in general accordance with EPA RCRA Technical Enforcement Guidance Document (TEGD) specifications and California rules and regulations. Drilling and well installation were supervised by a California-registered geologist. The borehole logs and well completion diagrams are included in Appendix A.

The monitoring wells were constructed by Layne Environmental Services using CME-95 auger rig with 12-inch OD hollow-stem augers. Monitoring well boreholes were drilled from ground surface to between 95 ft-bgs and 108 ft-bgs. Soil samples were collected as discussed in Section 2.1. Each well was constructed with flush-threaded, 4-inch diameter, schedule 40 PVC screen and casing with a 6-inch flush-threaded bottom cap. The well was completed with 30 feet of 0.020-inch slotted screen installed across the water table to accommodate water level fluctuations.

A filter pack of #2/12 Monterey sand was emplaced in the annular space between the PVC screen and the borehole wall from total depth to about 3 feet above the top of the well screen. A seal of 1/4-inch bentonite pellets about 3 feet thick was then emplaced above the filter pack and hydrated. The annular space above the bentonite pellets was filled with bentonite grout to near ground surface.

In Well MW-607, the annulus was backfilled with bentonite chips to 24 ft-bgs. This was done to isolate a structurally sound but possibly not water tight PVC joint at 30 ft-bgs. The rest of the annulus was backfilled with bentonite grout.

Protective steel monuments, 8-inch diameter, were installed in concrete to complete the wells at the refinery. Flush-mounted steel vaults, 12-inch diameter, were installed in concrete to complete the wells installed at MSH. A locking plug cap was installed in each MSH well that inhibits infiltration of surface fluids into the monitoring well and limits tampering. The refinery wells were capped with PVC slip caps.

After installation, the monitoring wells were developed to reduce turbidity in the water samples. The wells were developed with a development rig. A surge block was used to surge groundwater through the filter pack to settle the filter pack and draw fine-grained material into the well. A steel bailer was used to remove the fine-grained material and turbid water from the well. After surging and bailing of the well, a submersible pump was used to over pump the well and reduce turbidity. About 150 gallons to 200 gallons of groundwater were evacuated from each well, until the discharge water became free of almost all sediment. The groundwater purged from the wells was contained in 55-gallon drums and transported to the refinery.

A measuring point was established at the top of the north side of each PVC well casing. Coory Engineering of Santa Fe Springs, California, surveyed the elevations and locations of the eight monitoring wells after completion. Elevations were measured relative to mean sea level to an accuracy of ± 0.01 feet. Horizontal locations were established relative to California Zone VII coordinates to an accuracy of ± 0.1 feet. The coordinates and elevations of the measuring points and surrounding ground surface are listed in Table 2-1.

2.2.2. Groundwater Sampling

Groundwater monitoring was conducted during well installation and in January 1996 to evaluate groundwater quality. During well installation in December 1995, the wells were sampled and analyzed for:

- VOCs by EPA Methods 8010 and 8020;
- TPH-G by modified EPA Method 8015; and
- TPH extended carbon range (C_6 to $C_{44}+$) by ASTM Method 2887.

The wells were sampled and analyzed in December 1995 and January 1996 for:

- Dissolved lead by EPA Method 6020.

In December, the wells were sampled for organic compounds immediately after well development. Samples were collected from either the steel development bailer or from disposable polyethylene bailers. The samples were poured directly into the appropriate sample bottles and placed on ice in a cooler. The samples were then transported under chain of custody to Jones Environmental for analysis. Jones analyzed these samples within 24 hours so that POC could decide if installation of two additional, downgradient wells was necessary.

In January, the eight new wells were sampled for dissolved lead concentrations. The wells were initially gauged with an electronic oil/water interface probe. No product was detected in any of the wells. Subsequent static water levels were measured with an electronic water-level probe. Measurements were made to a precision of ±0.01 foot. Groundwater elevation data are discussed in Section 3.1

To prepare the wells for sampling, each well was purged of at least three well volumes of groundwater with a PVC bailer before sample collection. Completed water sampling forms are included in Appendix B. The purged water was contained in 55-gallon drums. Following well preparation, groundwater samples were collected from the monitoring wells with stainless steel bailers. New polypropylene rope was used to purge and sample each well. All bailers were decontaminated before use in each well.

Specific conductance, temperature, and pH of groundwater samples from each well were measured before sample collection. Water samples collected for laboratory analysis were filtered in the field. The samples were then transferred into clean sample containers preserved with nitric acid.

In addition to samples from the monitoring wells, an equipment blank was submitted to the laboratory for quality assurance/quality control (QA/QC). All samples were labeled and placed on ice in a cooler immediately after collection.

2.2.3. Groundwater Sample Analysis

The groundwater samples were shipped under chain of custody to the analytical laboratories for chemical analysis. The samples were analyzed by Jones Environmental for:

- VOCs by EPA Methods 8010 and 8020;
- TPH-G by modified EPA Method 8015; and
- TPH extended carbon range (C_6 to C_{44}+) by ASTM Method 2887.

The samples were analyzed by Core Laboratories (Anaheim, California) for:

- Dissolved lead by EPA Method 6020.

EPA Method 6020 requires that the water samples have very low or no turbidity. Because of slight turbidity in the filtered samples, Core Laboratories filtered the samples again and analyzed them by EPA Method 6020. However, since the samples were preserved with nitric acid before the laboratory filtered them, some sediment was dissolved by the acid. This may cause the dissolved lead results to be slightly elevated.

The equipment blank was analyzed for dissolved lead. All groundwater analyses were conducted in accordance with EPA SW-846 methods or equivalent. The groundwater analytical results are discussed in Section 3.2.

CHAPTER 3

RESULTS OF INVESTIGATION

Geologic information from previous investigations at POC were combined with site-specific geologic information collected during this investigation to characterize the geology of the refinery and the surrounding area. Analytical data from this investigation was used to characterize the degree and extent of subsurface impacts to soil and groundwater. The results of the investigation are discussed in this section. A discussion of the conclusions is provided in chapters 4 and 5.

3.1. Site Geology and Hydrogeology

The site geology has been discussed in previous reports, including the workplan for this investigation (TriHydro, 1994). As stated in these reports, the site is underlain by the unconfined Exposition Aquifer. Groundwater depth fluctuates, but is usually about 80 ft-bgs to 100 ft-bgs.

Sediments encountered during this investigation are similar to sediments described in previous reports. The uppermost sediments are primarily silt and clay with variable amounts of sand and sand lenses. Thicker, coarse-grained sand units underlie the fine-grained soil at depths between 35 feet and 70 feet.

Groundwater was encountered in the deeper sand units during drilling at depths between 74 ft-bgs and 90 ft-bgs. After well development, water levels in the wells stabilized to between 74.6 ft-bgs and 91.2 ft-bgs.

Groundwater flows to the south at a gradient of about 0.007 feet/foot. Groundwater elevations were measured by TriHydro on January 8 and 9, 1996, in the eight new wells. Groundwater elevations were measured in the 15 older wells as part of the ongoing quarterly monitoring program by Miller Brooks Environmental in December 1995 (Miller Brooks, 1996). The elevations are listed in Table 3-1. The groundwater elevations and flow direction are plotted on Figure 3-1.

3.2. Soil Quality

Although this investigation was conducted primarily to determine the lateral extent of the groundwater plume, soil quality data were collected to determine if there were possible sources of groundwater contamination near the monitoring wells. POC conducted initial field screening of the soil samples during drilling to assess the soil

quality and to choose appropriate samples for laboratory analysis. Laboratory analysis was conducted to quantify the soil quality.

3.2.1. Organic Soil Quality

Three soil samples were collected from each of the eight monitoring well boreholes. These samples were analyzed for VOCs, TPH-G and TPH carbon range by Jones Environmental. The analytical results are summarized in Table 3-2. Chain-of-custody forms are included in Appendix C-1, and the laboratory reports are included in Appendix C-2.

No organic compounds were detected in soil samples from Well MW-107, located southeast of the East Tank Farm. At MSH, no organic compounds were detected in soil samples from wells MW-605, MW-606, or MW-607, all in the central, downgradient portion of MSH (Figure 2-1)

Xylenes were detected at trace amounts in soil samples from Well MW-105, located northwest of the West Tank Farm (Figure 2-1). Toluene was also detected slightly above the detection limit in the sample from 10 ft-bgs. TPH-G was not detected.

In Well MW-106, located upgradient of the East Tank Farm (Figure 2-1), the highest VOC and TPH-G concentrations were detected in the soil sample from the capillary fringe. A low concentration of 0.014 milligrams/kilogram (mg/kg) of xylenes was also detected in the shallowest sample (10 ft-bgs).

Chlorinated hydrocarbon 1,1,1-trichloroethane (1,1,1-TCA) was detected at trace amounts in the shallow and the deep soil samples from Well MW-603. No other organic compounds were detected.

The samples from MW-604 contain concentrations of xylenes from 0.0065 mg/kg to 0.014 mg/kg. The sample from 60 ft-bgs also contains a low concentration (1.3 mg/kg) of TPH-G.

3.2.2. Inorganic Soil Quality

The soil samples were analyzed for total lead concentrations by BC Laboratories. The lead results are summarized in Table 3-2. Chain-of-custody forms are included in Appendix C-1, and the laboratory reports are included in Appendix C-3.

All lead concentrations in soil were below 10 mg/kg. These concentrations probably reflect background concentrations of lead in soil. Background concentrations of lead from 70 mg/kg to 150 mg/kg in Los Angeles County were reported by Boerngen and Shacklette (1981).

3.3. Groundwater Quality

The previously existing wells at the refinery and MSH were sampled by Miller Brooks in December 1995 and analyzed for VOCs, TPH-G, TPH carbon range, and dissolved lead. The eight new wells were sampled by TriHydro Corporation and analyzed for VOCs, TPH-G, and TPH carbon range in December 1995 and for dissolved lead in January 1996. The results of these three sampling events are summarized in this section. Chain-of-custody forms are included in Appendix C-1, and the laboratory reports are included in appendices C-4 (organic compounds) and C-5 (lead).

3.3.1. Organic Groundwater Quality

Plume maps for benzene and toluene were produced, since review of the analytical data indicates the presence of gasoline constituents in the groundwater. Since benzene and toluene have relatively high vapor pressures and water solubility concentrations, the extent of these two VOCs would represent the farthest migration of gasoline components.

Benzene was detected in samples from 22 of the 23 wells sampled in December 1995 (Table 3-3). Detectable concentrations in the groundwater samples ranged from 23 mg/L (MW-600) to 0.00098 mg/L (MW-603). Benzene concentrations in groundwater samples are shown on Figure 3-2.

Toluene was detected in samples from 21 of the 23 wells, with concentration distributions that correspond to the distribution of benzene (Table 3-3). Detectable concentrations in the groundwater samples varied from 40 mg/L (MW-600) to 0.0006 mg/L (MW-104). Toluene concentrations in groundwater are shown on Figure 3-3.

TPH-G was detected in samples from 17 of the 23 wells (Table 3-4). Detectable concentrations in groundwater samples ranged from 12,000 mg/L (MW-204) to 0.64 mg/L (MW-203). The distribution of TPH-G follows that of benzene (Figure 3-4). Although TPH-G was detected in samples from wells MW-106 and MW-604, the sample chromatograms are not typical of gasoline (Table 3-5). This indicates that the gasoline-range TPH in the samples may be from multiple hydrocarbon sources.

Carbon chain analyses by ASTM Method 2887 were run on the samples in which TPH was detected. The chromatograms (EPA 8020/8015 and ASTM 2887) for wells within the gasoline plume and upgradient and downgradient of the plume were examined and are discussed in Section 4.1.1. A summary of chromatogram assessments is included in Table 3-5. The wells are listed in order of location, beginning upgradient (northward) and proceeding downgradient (southward). Example chromatograms from wells MW-106, MW-504, MW-605, and MW-607 are presented in Appendix D.

Chlorinated hydrocarbon concentrations in groundwater have different spatial distributions from the gasoline-related hydrocarbon concentrations (Table 3-3). Concentrations of 1,2-dichloroethane (1,2-DCA) were detected in samples from 15 of

the 23 wells. Detectable concentrations varied from 0.0012 (MW-604) to 0.013 mg/L (MW-504). Concentrations of 1,2-DCA in groundwater samples are shown on Figure 3-5. Concentrations of 1,2-DCA decrease south of the refinery (MW-600 and MW-601) and then increase farther south in MSH wells MW-603 and MW-606.

Trichloroethene (TCE) was detected in samples from nine of the 23 wells (Table 3-3). Detectable concentrations in the samples ranged from 0.0013 (MW-202) to 0.11 mg/L (MW-201). As shown on Figure 3-6, these seven wells are on the western edge of the refinery and MSH. TCE was also detected in the sample from MW-106, upgradient of the East Tank Farm.

Tetrachloroethane (PCE) concentrations in the groundwater samples are similar to the TCE concentrations (Table 3-3). As the isoconcentration map (Figure 3-7) shows, detections of PCE are limited to the western edge of the refinery and MSH. PCE was detected in samples from six of the 23 wells.

3.3.2. Inorganic Groundwater Quality

During the December 1995 and January 1996 sampling events, the groundwater samples were measured in the field for temperature, pH, and specific conductance. The field parameters are summarized in Table 3-6.

Specific conductance was highest in the sample from MW-104, at 3016 μmhos/cm, and lowest in the sample from MW-201, at 803 μmhos/cm. All groundwater samples had pH close to neutral, with values from 6.26 to 9.21.

The groundwater samples were analyzed for dissolved lead by Core Laboratories. The analytical results are summarized in Table 3-6. Chain-of-custody forms are included in Appendix C-1, and the laboratory reports are included in Appendix C-5.

Lead was detected in four of the samples. Detectable concentrations ranged from 0.005 mg/L (MW-105) to 0.33 mg/L (MW-600).

CHAPTER 4

DISCUSSION OF FINDINGS
(prepared by Powerine)

POC conducted this investigation to characterize the extent of soil and groundwater contamination near the refinery. To accomplish this, POC analyzed soil and groundwater samples collected near the refinery boundaries and downgradient of the refinery at MSH. From this investigation, POC found that a gasoline-range organic compound plume is centered around the southern part of the refinery.

In addition to the gasoline plume, there are contaminants in groundwater that appear to be from other, offsite sources. Soil analytical results do not suggest that POC is a source of these additional groundwater contaminants. No high levels of soil contamination were detected during this investigation.

4.1. Extent of Groundwater Contamination

Analysis of groundwater samples collected in December 1995 indicate multiple sources of groundwater contamination. There appear to be chlorinated VOCs and petroleum hydrocarbons in groundwater that are not related to refinery activities, but that are from offsite sources.

4.1.1. Petroleum Hydrocarbons

Analysis of all the available chromatograms indicate there are different chromatogram signatures in different areas near the refinery. These different signatures are illustrated by chromatograms from four groundwater samples:

- Background, full-range hydrocarbons in the sample from upgradient Well MW-106;
- Gasoline-range hydrocarbons in the sample from centrally-located Well MW-504;
- Unknown hydrocarbons with peaks in the C_{26}-C_{28} range in the sample from Well MW-607 located south and west of the Walker property; and
- Trace hydrocarbon concentrations in the sample from downgradient Well MW-605.

Chromatograms from these four wells are included in Appendix D.

Chromatograms from the three upgradient wells (MW-104, MW-105, and MW-106) and from Well MW-107 (east of potential refinery sources) were analyzed to assess background water quality. The samples contain broad-range TPH concentrations that, although low in concentration, are indicative of the more soluble portions of crude oil.

The sample from MW-607, west and south of the Walker property, has a chromatogram pattern that is different from the patterns from the other groundwater samples. The highest chromatogram peaks were in the C_{26}-C_{28} range, outside the gasoline range of C_5-C_{12}. These heavier hydrocarbons may be from releases of crude oil associated with historical production activities.

4.1.2. Chlorinated VOCs

The concentrations of TCE, PCE, and other chlorinated hydrocarbons in groundwater (figures 3-6 and 3-7) indicate offsite sources not related to the POC refinery. One source of chlorinated hydrocarbons is to the west of the refinery, in the vicinity of the Torco property. Additionally, chlorinated hydrocarbons were detected in MW-106, indicating a source to the north of the East Tank Farm.

The isoconcentration map of 1,2-DCA (Figure 3-5) indicates multiple sources of 1,2-DCA. Although 1,2-DCA has been used as a gasoline lead additive, it is also associated with solvents such as metal degreasers and paint, varnish, and finish removers. Industries that may use these solvents are upgradient and adjacent to the refinery.

Concentrations of 1,2-DCA in MW-105 indicates a source north of the refinery. In addition, the elevated concentrations of 1,2-DCA in wells MW-603 and MW-606 indicate another source northwest of MSH. Groundwater near these two wells flows slightly to the east (Figure 3-1). The lower concentrations of 1,2-DCA in wells MW-206, MW-600, and MW-601 may indicate that the 1,2-DCA farther south is not related to the 1,2-DCA at the refinery.

4.2. Probable Sources of Groundwater Contamination

At the request of the RWQCB, Powerine researched subsurface contamination at past and present industrial facilities near the refinery. As shown in Figure 4-1, the most apparent, potential sources within a 1/2-mile radius of the refinery are:

- The Ashland Chemical Company, located 1/2 mile northeast;
- Past and present crude oil production fields located near the refinery, primarily north, east, and west;

- The Torco USA Lubricants (Torco) facility, located directly west of Powerine;
- The Walker property, a California Superfund site located southeast of Powerine; and
- The California Metropolitan State Hospital (MSH), located south of Powerine.

Of these five additional sites, RWQCB asked Powerine to determine if any contamination from the refinery operations may have impacted soil or groundwater at the Torco, Walker, or MSH facilities or, conversely, if operations from these three facilities may have impacted the shallow aquifer in the vicinity of Powerine.

4.2.1. Ashland Chemical Company

The Ashland Chemical Company is located at 10505 Painter Avenue, Santa Fe Springs, approximately 1/2 mile northeast of the refinery. This location is upgradient to cross-gradient of the refinery and MSH , as indicated by the groundwater contours on Figure 3-1 and previous POC groundwater flow maps (AeroVironment, 1992 and ENSR, 1990). Ashland has used this property for the storage, blending, and distribution of petroleum fuels, organic solvents, and acids since the late 1950s.

As of 1991, free-phase hydrocarbons and organic vapors were being recovered through groundwater (20,000 gallons per day) and vapor extraction systems (HLA, 1993). Triennial reports on groundwater monitoring and sampling were submitted to RWQCB by Ashland. Representative VOCs detected in groundwater samples from the Ashland site and their highest concentrations include:

- TCE at 0.21 mg/L;
- PCE at 0.15 mg/L;
- 1,1-Dichloroethane (1,1-DCA) at 0.86 mg/L;
- 1,1-Dichloroethene (1,1-DCE) at 0.24 mg/L;
- 1,2-Dichloropropane at 6.1 mg/L;
- 1,1-Dichlorobenzene at 6.7 mg/L;
- Vinyl chloride at 2 mg/L,
- Benzene at 9 mg/L; and
- Toluene at 22 mg/L.

These VOCs may have migrated from the Ashland site toward the Powerine refinery and MSH wells. Therefore, these constituents detected in the eastern refinery and MSH wells may be from the Ashland site.

4.2.2. Regional Oil Production Fields

To investigate regional production fields, POC reviewed historical photographs and topographic maps of the area. The maps and photographs show profuse, active oil production surrounding the refinery to the north, west, and east since the 1900s.

Aerial photographs dating from 1928 through 1988 were reviewed at the Santa Fe Springs Planning Department and at Continental Aerial Photographs, Inc., Los Alamitos, California. Land use in 1928 was predominately agricultural in addition to oil field activity occurring approximately 1/2 mile northeast of Torco and Powerine. By 1938, a number of oil derricks were situated approximately 1/2 mile northeast of the subject sites.

As part of the Oil Field Reclamation Project, an effort to redevelop past and present oil production areas, current subsurface investigations are being conducted directly north of the refinery. RWQCB is overseeing investigative and remedial tasks. Powerine does not currently have access to the project data. Discussions with Santa Fe Springs city officials indicate that petroleum impacted soil has been treated via bioremediation technologies and that groundwater investigations have occurred.

The current groundwater contamination detected in wells near the refinery is likely to be due, at least in part, to previous oil production in the region. Historical waste management practices include releases to the ground of oil production wastes. POC's review of groundwater chromatograms indicate a current, background level of organic compounds that appear to be the more soluble, lighter portions of crude oil. The chromatogram from the MW-106 groundwater sample illustrates the crude oil background (Appendix D).

Typical oil field production-related, past waste management practices are shown in a 1927 topographic map (Figure 4-2) for the areas directly south and southeast of the Powerine refinery, areas currently occupied by MSH and the Walker Property. Examples of notes incorporated on this map include:

- "Ditch partly filled with oil and running water,"
- "Oil soaked area with puddles of oil in parts,"
- "Area covered with oil deposit," and
- "Oil washed area."

Although the map describes oil contamination in 1927, similar oil field waste disposal practices continued into the 1970s and 1980s. Also, operating oil production

wells upgradient of the refinery may currently contribute to soil and groundwater contamination in the area through poor well seals and accidental releases.

Chromatograms of samples from wells MW-105, MW-106, MW-107, MW-203, MW-603, MW-604, and MW-605 show broad-range hydrocarbon contamination with no distinct patterns that may be from crude oil releases (Table 3-5). These wells are located both upgradient and downgradient of the refinery (Figure 3-1).

4.2.3. Torco USA Lubricants

The Torco facility is located at 12247 Lakeland Road, directly west of POC (Figure 4-1). A summary of past industrial operations was obtained from review of aerial photographs, topographic maps, building permits, and an interview with a former property owner. Figure 4-3 shows the Torco facility as it was in the 1980s.

In 1958, oil handling or refining operations was observed on the Torco property. The northeast corner and the areas in the vicinity of numerous tanks were dark in appearance. Review of photographs from 1973 through 1988 indicate that the numerous tanks were abandoned, and the building now located on the southeast section of the Torco was built.

The 1925, 1949, 1972, and 1981 editions of the U.S. Geological Survey Whittier quadrangle map were reviewed at the University of California, Riverside. The 1925 map indicates an oil production well located 300 feet west of Torco. The 1949 map confirms the oil handling facilities in the eastern portion of Torco. The 1972 and 1981 maps show the Powerine Tank Farm located directly east of the Torco site.

The Santa Fe Springs Building and Safety Department has records of building permit applications from 1941 to 1984 for the Torco property. Applications dated 1941 and 1943 were submitted to replace an existing warehouse structure with a pump house, laboratory upgrade, fractionation tank, clay press filter, cooling tower, and loading dock for use as an oil or lube refinery. These applications were made by the Pen-Lube Oil Company. The Thermic Oil Company applied for a permit to construct a facility for compounding lube oil in 1954, and submitted an application in 1964 for construction of a gas system. The Torco Oil Company owned the site beyond 1964, and submitted additional construction applications from 1964 until 1984.

Mr. Bob Lancaster, the owner and operator of the Torco site from 1950s until 1981, has provided the following chronology regarding uses of the Torco property:

- The southern portion of the site was used as a compressor plant by Mobil Oil during the 1930s to compress natural gas produced at the nearby Santa Fe Springs Oil Field.

- By 1942, the facility was converted to reclaim aircraft piston oil.

- After 1945, the facility was converted to reclaim crankcase and hydraulic oil. The process to reclaim and refine oil involved:
    - Treatment of the oil with concentrated sulfuric acid to precipitate out the residual carbon;
    - Heat treating the oil in a tower mixed with sodium silica;
    - Clarifying the sodium silica; and
    - Passing the oil through absorbent clay for removal of precipitated residual carbon. The spent clay was spread on the ground on site until enough material accumulated for off-site disposal.
- During the 1950s, reclamation of used oil no longer occurred, but instead blending of oils to produce high performance products continued. Clay filtration continued until 1960.
- In 1971, the refining/blending and storage facilities were removed and replaced with the main building now present on site.

4.2.3.1. Torco Property Soil Quality Data

Soil samples were collected from the Torco property via drilling and excavation. Sampling point locations are shown on Figure 4-3. Soil samples were analyzed for:

- TPH as diesel (modified EPA Method 8015); and
- Total recoverable petroleum hydrocarbons (TRPH by EPA Method 418.1).

Table 4-1 summarizes the soil quality data. This summary table shows the sample results as well as an examination of the relative concentrations of TPH versus TRPH. In all but two samples, the TRPH concentrations are higher than TPH concentrations. The mean TRPH concentration (3,805 mg/kg) is 2.23 times greater than the mean TPH concentration (1,704 mg/kg).

No groundwater quality data are available from the Torco site. Concentrations of TCE and PCE in groundwater samples from the POC wells (figures 3-6 and 3-7) indicate a source of chlorinated VOCs at or near the Torco site.

4.2.3.2. Potential Migration of Contaminants between Torco and Powerine

The soil data obtained from Torco does not indicate that contaminants from the Powerine facility have migrated laterally on to Torco property. Specifically, the soil analytical data suggest:

- The presence of heavier, non-refined products such as lube oil or motor oil; and

- A source of hydrocarbon contaminants from beneath the Torco building.

Chlorinated VOCs, specifically TCE and PCE, dissolved in groundwater are migrating on to the Powerine facility from the west and northwest (figures 3-6 and 3-7). The source of VOCs could include the Torco site or other sources to the west.

Torco management claims that refined product from POC has migrated in soil to the Torco property. The TRPH to TPH ratio of 2.23:1 indicates that the soil contamination is primarily heavier oils. If POC product were in the soil, it would be predominately gasoline, jet fuel, and diesel: C_5-C_{23}. The products processed at the Torco facility were primarily motor oil and lube oil: C_{18}-C_{36}. TRPH by EPA Method 418.1 includes hydrocarbons from C_6 to $C_{100}+$. TPH as diesel by modified EPA Method 8015 includes hydrocarbons from C_4 to C_{30}. If gasoline, jet fuel, or diesel were present in the Torco soil, the TRPH to TPH ratio would be substantially closer to 1:1. The higher TRPH:TPH ratio of 2.23:1 indicates the presence of significant concentrations of $C_{30}+$ hydrocarbons, potentially lube oil and motor oil. The elevated TRPH:TPH ratio could also be due in part to product weathering that first breaks down the lighter hydrocarbons.

As part of the Torco property investigation, five boreholes were drilled and sampled underneath the existing warehouse building, which is located adjacent to and above areas of soil contamination. Of the five borings collected from beneath the building, three samples (ER-55, ER-56, and ER-57) indicate near surface sources of soil contamination. Soil samples from these boreholes contained high TPH and TRPH concentrations at 5 ft-bgs to 20 ft-bgs and decreasing concentrations with depth.

For example, soil samples from soil boring S-B55 (ER-55) contained TRPH concentrations of 4,930 mg/kg at 5 ft-bgs, 19,600 mg/kg at 20 ft-bgs, 49 mg/kg at 45 ft-bgs, and 50 mg/kg at 75 ft-bgs. The samples contained TPH concentrations of 10,567 mg/kg at 20 feet bgs, 1 mg/kg at 45 ft-bgs, and 1 mg/kg at 75 feet bgs. The TRPH concentrations are greater than the TPH concentrations, indicating long-chain hydrocarbon contamination. The decreasing concentrations with depth indicate a near-surface source of contamination in this area.

A series of short trenches traversing the property line were dug and sampled, but the data did not provide conclusions as to the petroleum hydrocarbon source. In one trench, a soil sample (S-E35) collected at 8 ft-bgs from approximately 5 feet inside the Torco property line had TRPH:TPH concentrations of 2,875 mg/kg:1,265 mg/kg (2.27:1). The sample (S-E35A) collected 5 feet inside the Powerine property line and 7 ft-bgs in this same trench had TRPH:TPH concentrations of 9,936 mg/kg:7,865 mg/kg (1.26:1). The higher TRPH:TPH ratio in the sample from within the Torco boundaries suggests that this hydrocarbon originated from a source other than the source of hydrocarbons at POC.

However, samples from another trench approximately 80 feet north indicated a migration path from Torco to Powerine. The sample from the Torco property (S-E42) had TRPH:TPH concentrations of 3,080 mg/kg:1,355 mg/kg (2.27:1), and the sample from the Powerine property (S-E42A) had TRPH:TPH concentrations of 46 mg/kg:20 mg/kg (2.3:1). The similar TRPH:TPH ratio indicates a common source.

As discussed in previous sections, there appears to be a source of chlorinated VOCs, specifically TCE and PCE, in groundwater west of the refinery (figures 3-6 and 3-7). The source of these common degreasing solvents could be upgradient of or at the Torco site. The TCE and PCE distributions shown in figures 3-6 and 3-7 clearly indicate an offsite, non-POC source of these solvents.

4.2.4. Walker Property

The Walker property is currently owned by Texaco. POC leased the southwest property corner from 1968 to 1986. The site was used from approximately 1934 until 1986 for storage of hydrocarbon and equipment, and storage and disposal of used oil and oil well drilling fluids. Groundwater and soil data collected since the early 1980s indicate that:

- The area designated as the Lakewood section (the northwest portion of the site) is impacted by contaminants associated with used oil and lubricating fluids; and

- The area near the tanks operated by Powerine from 1968 to 1986 has been impacted by hydrocarbon contamination (HLA, 1993).

The site had several above-ground storage tanks (ASTs), USTs, and settling ponds. In the 1920s, three large ASTs and associated foundations and four earthen sumps were constructed at the site. Two of these tanks were removed before 1945. The soil near the tank foundation was stained, indicating contamination from the former tank (Cal EPA, 1992).

A large pond area was evident at the site before 1945. During the 1940s, two large ASTs and an earthen berm were constructed in the southwestern corner of the site, and 23 small ASTs were placed near ASTs that were installed in the 1920s. Also during the 1940s, three of the four earthen sumps were removed, the remaining sump was enlarged, and a new sump was added (Cal EPA, 1992).

During the 1950s, the remaining large AST installed in the 1920s was removed; seven of the 23 small ASTs installed in the 1940s were removed; and the large pond, noted before 1945, was reduced in size. Before 1962, eight of the 23 tanks were removed and the large pond area was filled in. Before 1974, the remaining sump was filled and six new ASTs were placed in the northwestern corner of the site. Before 1981, two more ASTs were placed in the northwestern corner, and an AST was placed in the central portion of the site (Cal EPA, 1992).

From 1968 to 1984, Lakewood Oil Company recycled used motor oil on the Lakewood portion of the site. Lakewood constructed office structures, unloading facilities, and numerous tanks. Used oil, polychlorinated biphenyls (PCBs), metals, and lubricating fluids were detected in soil samples from this area (HLA, 1993).

POC leased about 2 acres in the southwestern corner of the site between 1968 and 1986 (Figure 4-1). Powerine's stored jet fuel, gas oil, and fuel oil in two 80,000-barrel ASTs. These tanks were constructed before 1945, i.e., before Powerine leased the 2-acre plot. Liquefied petroleum gas, asphalt, and carbon dioxide were also loaded and unloaded on the Powerine leased area.

4.2.4.1. Walker Property Soil and Groundwater Quality Data

For this investigation, POC reviewed soil and groundwater quality data from the entire Walker property. Only the soil and groundwater data obtained from the Powerine portion of the Walker property is discussed in this report. The data summarized in this section were generated by consultants contracted to Texaco (HLA, 1993).

At least 25 borings were drilled on the Powerine portion of the site. One well was also installed between the two abandoned 80,000-barrel tanks. Soil samples were analyzed for:

- VOCs by EPA Methods 8010 and 8020; and
- TPH as diesel by modified EPA Method 8105.

No VOCs were detected in the soil samples. TPH as diesel concentrations ranged from less than the detection limit of 5 mg/kg to 12,000 mg/kg (HLA, 1993).

Groundwater samples from the on-site well were analyzed for VOCs. Powerine obtained groundwater monitoring data from November 1989 through September 1990. The highest sum of BETX concentrations for the period was 0.042 mg/L. Concentrations of 1,1-DCA (up to 0.0025 mg/L) and vinyl chloride (0.0071 mg/L in one sample only) were also detected (HLA, 1993).

4.2.4.2. Potential Migration of Contaminants from Powerine Areas of Walker Property

The soil data from the Walker property indicate a petroleum release was likely to have occurred at the site. Since the two abandoned 80,000-barrel tanks were built before 1945, it is not clear if a petroleum release occurred before or during Powerine's lease from 1968 to 1986.

Groundwater samples from upgradient monitoring wells MW-107 and MW-203 contained detectable concentrations of BETX and low concentrations of chlorinated VOCs. The sample from MW-203 also contained a low concentration of TPH as gasoline.

Compared to samples from the upgradient wells, groundwater samples from downgradient wells MW-604 and MW-607 contained higher concentrations of TPH as gasoline and higher or similar concentrations of BETX. The samples from MW-604 and MW-607 also contained low concentrations of chlorinated VOCs.

Only the sample from MW-607, located downgradient of the Walker Properties, had detectable concentrations of TPH (total of 31 mg/L) as measured by ASTM Method 2887. The highest carbon range concentration (26 mg/L) was detected in the C_{26}-C_{28} range, which would include the crude oil, used oil, jet fuel, and gas oil stored at the site.

4.2.5 California Metropolitan State Hospital

MSH is a 169-acre mental health facility operated by the State of California located directly downgradient of the Powerine refinery. Per discussions with MSH operations personnel, this facility used to be substantially larger before portions of its land to the south and east were sold. The facility contains several residential and hospital complexes and support services such as a kitchen, laundry, warehouses, boiler house, cogeneration facility, automotive fueling stations, and various maintenance shops. MSH has been in operation since 1915.

The facility operates or has operated at least seven underground storage tanks (USTs). Two USTs containing gasoline and diesel were located along the southern portion of MSH. These UST have failed leak detection tests. Additional USTs containing diesel, gasoline, and #6 bunker fuel have been used elsewhere at the facility (CET, 1995). Data generated by both Powerine and the State of California are summarized in this section.

4.2.5.1. MSH Soil and Groundwater Quality Data

Numerous soil samples were collected and analyzed near each of the facility's USTs. Soil data indicate a release of bunker fuel in the north-central portion of the facility and a release of gasoline from the southern USTs (CET, 1995).

MSH installed seven monitoring wells, and Powerine installed an additional seven wells on MSH property. In 1991, elevated concentrations of gasoline constituents were detected in groundwater samples from wells near the southern USTs (TriHydro, 1994). However, the recently-installed POC wells on MSH property show that the more upgradient gasoline plume does not extend to the southern USTs.

4.2.5.2. Potential Migration of Contaminants between MSH and Powerine

The POC refinery may be a source of dissolved gasoline constituents currently detected in groundwater beneath the northern portion of MSH. Figures 3-2 through 3-4 indicate that TPH as gasoline, benzene, and toluene migrated from the Powerine property to past MW-600 and MW-601. As discussed in the previous section, it

appears that gasoline contamination near the southern MSH USTs is unrelated to POC activities. In addition, it does not appear that the Powerine refinery is the source of longer chained hydrocarbons detected in the sample from MW-607.

Moreover, the refinery does not appear to be the source of dissolved chlorinated compounds detected in groundwater beneath MSH. Figures 3-6 and 3-7 indicate that the source of PCE and TCE in groundwater is to the west of the refinery. Although 1,2-DCA is present north of and within the refinery, the southern extent of 1,2-DCA in groundwater was defined during this investigation. Concentrations of 1,2-DCA in samples from wells MW-600 and MW-601 are lower than concentrations in samples from MW-603 and MW-605, suggesting a source of 1,2-DCA to the northwest of MSH (Figure 3-5).

The gasoline constituents detected in groundwater near the southern portion of MSH appear to be from the MSH USTs. The more upgradient gasoline plume does not mingle with the MSH gasoline plume. The past 10 years of Powerine groundwater flow data indicate groundwater flows to the south. Therefore, it is unlikely that the MSH gasoline plume will migrate towards the refinery.

CHAPTER 5

CONCLUSIONS
(prepared by Powerine)

Powerine achieved the objectives outlined in the RWQCB-approved workplan (TriHydro, 1994). The following concentrations were detected in groundwater samples from the 15 previously existing and 8 new wells:

- TPH as gasoline ranged from non-detectable (<0.5 mg/L) to 12,000 mg/L.
- Benzene ranged from non-detectable (<0.0005 mg/L) to 23 mg/L.
- 1,2-DCA ranged from non-detectable (<0.0005 mg/L) to 0.013 mg/L.

TCE, PCE, and degradation components beneath and downgradient of the refinery appear to emanate from sources located to the north and/or west, potentially including the Ashland Chemical Company and Torco property. Background BETX and other petroleum hydrocarbon constituents detected in upgradient wells may have originated from past and present oil production in the area or from existing nearby industry.

Soil and groundwater data from industrial facilities located adjacent to the refinery indicate that:

- The soil contamination evident at the Torco property appears to be attributed to Torco refining and lube oil manufacturing. The high proportion of TRPH to TPH as diesel suggests a higher proportion of petroleum hydrocarbons above C_{30}. High concentrations of these heavy hydrocarbons are present in lube oils, as used during Torco operations and not in refined products such as jet, diesel, or gasoline.
- Diesel and jet range hydrocarbons were detected in Walker property soil near the 80,000-barrel ASTs operated by Powerine between 1968 and 1986. Groundwater samples from Well MW-607 (south and west of the Walker Property) contained concentrations of C_{26}-C_{28} hydrocarbons. The source of these hydrocarbons may be from regional production activities or existing local industry.
- The groundwater at Metropolitan State Hospital is impacted by dissolved gasoline constituents. The northern and southern gasoline plumes appear to be separated near the center of MSH.

CHAPTER 6

PROPOSED FUTURE INVESTIGATIONS

Additional subsurface and regional investigation activities are needed to assess potential Powerine sources and additional regional sources of petroleum hydrocarbons and chlorinated VOCs. Analysis of data collected during this investigation prompt:

- Additional investigation to determine the presence or absence of chlorinated VOCs in refinery soil;
- Further research into waste management practices of regional oil production areas;
- Additional research on existing groundwater and soil data from MSH and upgradient oil production areas; and
- Investigation of Walker property AST operations in the Powerine leased area before Powerine operations in 1968.

As requested by RWQCB, POC will prepare a workplan for:

- A soil gas survey and confirmation soil sampling near the refinery laboratory to assess the extent and degree, if present, of VOCs and chlorinated VOCs in soil;
- Supplemental groundwater investigations, as warranted, to determine the extent and degree, if present, of degradation from the Powerine leased area at the Walker property;
- Implementation of a refinery source elimination program; and
- Identification and remediation of petroleum hydrocarbon contamination at the refinery.

The workplan and schedule for these planned activities will be provided to RWQCB by June 17, 1996. Powerine will also continue routine, semiannual groundwater monitoring. The next semiannual report will be submitted by August 15, 1996.

CHAPTER 7

REFERENCES

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Table 2-1. Monitoring Well Survey Data (Newly Installed Wells), Powerine Refinery, Santa Fe Springs, California.

Well	Northing	Easting	Measuring Point Elevation (ft-msl)	Elevation of Ground Surface (ft-msl)
MW-105	4088888.7754	4266723.1991	138.63	137.11
MW-106	4088891.9937	4269057.8756	148.41	146.26
MW-107	4087934.4421	4269303.5933	148.93	146.41
MW-603	4086220.3218	4266163.4852	118.54	118.96
MW-604	4086767.4191	4268452.2254	138.16	137.14
MW-605	4085095.0390	4266130.0956	114.54	115.13
MW-606	4084786.9074	4267479.9318	113.89	114.42
MW-607	4085513.6416	4268583.5520	126.03	126.61

Table 3-1. Groundwater Elevations, Powerine Refinery, Santa Fe Springs, California.

Well	Date of Measurement	Measuring Point Elevation (ft-msl)	Depth to Product (ft-msl)	Depth to Water (ft-msl)	Elevation of Product Surface (ft-msl)	Elevation of Water Surface (ft-msl)	Product Thickness (ft)
MW-101	12/13/95	135.23	ND	75.15	--	60.08	--
MW-103	12/13/95	136.95	ND	81.21	--	55.74	--
MW-104	12/13/95	141.6	ND	77.21	--	64.39	--
MW-105	1/9/96	138.63	ND	74.65	--	63.98	--
MW-106	1/9/96	148.41	ND	82.75	--	65.66	--
MW-107	1/9/96	148.93	ND	91.18	--	57.75	--
MW-201	12/13/95	132.91	ND	76.79	--	56.12	--
MW-202	12/13/95	137.89	ND	81.71	--	56.18	--
MW-203	12/13/95	143.89	ND	87.38	--	56.51	--
MW-204	12/13/95	140.14	ND	82.23	--	57.91	--
MW-205	12/13/95	138.04	ND	76.28	--	61.76	--
MW-206	12/13/95	129.93	ND	79.65	--	50.28	--
MW-501	12/13/95	128.7	ND	79.09	--	49.61	--
MW-502	12/13/95	130.82	ND	81.02	--	49.80	--
MW-503	12/13/95	134.43	ND	79.37	--	55.06	--
MW-504	12/13/95	134.51	ND	78.76	--	55.75	--
MW-600	12/13/95	120.05	ND	72.02	--	48.03	--
MW-601	12/13/95	125.03	ND	78.07	--	46.96	--
MW-603	1/9/96	118.54	ND	75.80	--	42.74	--
MW-604	1/9/96	138.16	ND	91.00	--	47.16	--
MW-605	1/9/96	114.54	ND	75.06	--	39.48	--
MW-606	1/9/96	113.89	ND	78.24	--	35.65	--
MW-607	1/24/96	126.03	ND	88.62	--	37.41	--

Table 3-2. Organic Compounds and Lead in Soil, Powerine Refinery, Santa Fe Springs, California.

Well	Sample Depth (ft-bgs)	Date	VOCs (8020) Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	VOCs (8010) 1,1,1-Trichloroethane (mg/kg)	Other Halocarbons (mg/kg)	TPH Screen (ASTM 2887) C8-C44 + (mg/kg)	TPH as Gasoline (Mod. 8015) (mg/kg)	Lead (6010) (mg/kg)
MW-105	10	12/18/95	ND(0.005)	0.0055	ND(0.005)	0.034	ND(0.001)	ND(0.001)	ND(10)	ND(1)	4.9
	60	12/18/95	ND(0.005)	ND(0.005)	ND(0.005)	0.017	ND(0.001)	ND(0.001)	ND(10)	ND(1)	ND(2.5)
	70	12/18/95	ND(0.005)	ND(0.005)	ND(0.005)	0.022	ND(0.001)	ND(0.001)	ND(10)	ND(1)	ND(2.5)
MW-106	10	12/17/95	ND(0.005)	ND(0.005)	ND(0.005)	0.014	ND(0.001)	ND(0.001)	ND(10)	ND(1)	4.1
	60	12/17/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	4.9
	80	12/18/95	0.018	0.019	0.011	0.1	ND(0.001)	ND(0.001)	ND(10)	4.2	ND(2.5)
MW-107	10	12/16/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	2.8
	30	12/16/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	ND(2.5)
	70	12/17/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	ND(2.5)
MW-603	10	12/20/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.00099	ND(0.001)	ND(10)	ND(1)	6.7
	20	12/20/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	5.5
	70	12/20/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.001	ND(0.001)	ND(10)	ND(1)	6.2
MW-604	10	12/19/95	ND(0.005)	ND(0.005)	ND(0.005)	0.0065	ND(0.001)	ND(0.001)	ND(10)	ND(1)	6.8
	60	12/19/95	ND(0.005)	ND(0.005)	ND(0.005)	0.014	ND(0.001)	ND(0.001)	ND(10)	1.3	2.9
	80	12/19/95	ND(0.005)	ND(0.005)	ND(0.005)	0.013	ND(0.001)	ND(0.001)	ND(10)	ND(1)	ND(2.5)
MW-605	10	12/16/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	6.7
	60	12/16/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	5.4
	70	12/16/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	3.6
MW-606	10	12/13/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	2.5
	50	12/13/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	4.3
	80	12/13/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	5.5
MW-607	10	12/15/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	2.8
	70	12/15/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	2.8
	80	12/15/95	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(10)	ND(1)	2.7

Table 3-3. Volatile Organic Compounds in Groundwater, Powerine Refinery, Santa Fe Springs, California.

		VOCs (8020)				VOCs (8010)				
Well	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	Vinyl Chloride (mg/L)	1,1-Dichloroethene (mg/L)	Methylene Chloride (mg/L)	t-1,2-Dichloroethene (mg/L)	1,1-Dichloroethane (mg/L)
MW-101	12/13/95	0.09	0.0059	0.0064	0.0029	ND(0.0005)	0.067	0.0013	0.00097	0.0093
MW-103	12/13/95	0.41	0.0041	0.0026	0.0077	0.0025	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.0022
MW-104	12/13/95	0.003	0.0006	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-105	12/21/95	0.011	0.0017	0.00081	0.0037	ND(0.0005)	0.013	ND(0.0005)	ND(0.0005)	0.0045
MW-106	12/20/95	0.012	0.0035	0.01	0.01	ND(0.001)	ND(0.001)	ND(0.001)	0.015	ND(0.001)
MW-107	12/21/95	0.016	0.00099	0.00077	0.0029	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.0065	ND(0.0005)
MW-201	12/13/95	0.44	0.042	0.12	0.094	ND(0.0005)	0.087	0.00069	0.0017	0.0094
MW-202	12/13/95	0.33	0.021	0.051	0.074	0.0015	0.0013	ND(0.0005)	0.001	0.0018
MW-203	12/13/95	0.037	0.001	0.012	0.0019	0.0014	ND(0.0005)	ND(0.0005)	0.0045	0.00061
MW-204	12/13/95	0.88	0.67	0.24	0.86	0.0047	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.0054
MW-205	12/13/95	0.11	0.0013	0.018	0.037	ND(0.0005)	0.022	0.00058	0.0053	0.0073
MW-206	12/13/95	0.11	0.016	0.032	0.1	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-501	12/13/95	1.6	0.1	0.88	2.2	ND(0.0025)	0.001	0.001	ND(0.0025)	0.0016
MW-502	12/13/95	6.9	0.95	3.3	8.5	ND(0.002)	ND(0.002)	0.0011	ND(0.002)	0.00089
MW-503	12/13/95	0.34	0.079	0.19	0.2	0.0014	0.12	0.001	0.0012	0.015
MW-504	12/13/95	2.7	0.73	0.8	2.6	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.00078	0.0027
MW-600	12/13/95	23	40	18	101	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-601	12/13/95	18	17	130	100	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.0017
MW-603	12/21/95	0.00098	0.0014	0.00062	0.0033	ND(0.0005)	0.042	ND(0.0005)	ND(0.0005)	0.0048
MW-604	12/20/95	0.16	0.0033	0.0078	0.021	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
MW-605	12/20/95	0.01	ND(0.0005)	ND(0.0005)	0.0049	ND(0.001)	0.0045	ND(0.001)	ND(0.001)	0.0016
MW-606	12/19/95	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-607	12/19/95	0.033	0.0035	0.0017	0.0094	ND(0.0005)	0.0011	ND(0.0005)	ND(0.0005)	ND(0.0005)
Trip blank 1	12/13/95	0.02	0.044	0.018	0.1	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Trip blank 2	12/13/95	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Equipment blank	12/13/95	0.0006	ND(0.0005)	ND(0.0005)	0.0013	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)

Table 3-3. Volatile Organic Compounds in Groundwater, Powerine Refinery, Santa Fe Springs, California.

		VOCs (8010)						
Well	Date	c-1,2-Dichloroethene (mg/L)	1,1,1-Trichloroethane (mg/L)	1,2-Dichloroethane (mg/L)	1,2-Dichloropropane (mg/L)	Trichloroethene (mg/L)	Tetrachloroethene (mg/L)	Other Halocarbons (mg/L)
MW-101	12/13/95	0.045	ND(0.0005)	0.0018	ND(0.0005)	0.1	0.036	ND(0.0005)
MW-103	12/13/95	ND(0.0005)	ND(0.0005)	0.0021	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-104	12/13/95	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-105	12/21/95	0.0094	ND(0.0005)	0.0033	ND(0.0005)	0.046	0.016	ND(0.0005)
MW-106	12/20/95	0.033	ND(0.001)	ND(0.001)	ND(0.001)	0.0015	ND(0.001)	ND(0.001)
MW-107	12/21/95	0.028	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-201	12/13/95	0.044	0.0018	0.0044	0.00081	0.11	0.058	ND(0.0005)
MW-202	12/13/95	0.013	ND(0.0005)	ND(0.0005)	0.0011	0.0013	ND(0.0005)	ND(0.0005)
MW-203	12/13/95	0.04	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-204	12/13/95	0.0047	ND(0.0005)	0.0082	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-205	12/13/95	0.051	ND(0.0005)	0.002	ND(0.0005)	0.08	0.0028	ND(0.0005)
MW-206	12/13/95	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-501	12/13/95	0.0085	0.0037	0.0032	0.0013	ND(0.0025)	ND(0.0025)	ND(0.0025)
MW-502	12/13/95	0.0069	ND(0.002)	0.0061	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)
MW-503	12/13/95	0.038	ND(0.0005)	0.0065	0.00072	0.085	ND(0.0005)	ND(0.0005)
MW-504	12/13/95	0.014	ND(0.0005)	0.013	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-600	12/13/95	0.0021	ND(0.0005)	0.0029	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-601	12/13/95	0.0043	ND(0.0005)	0.0027	0.00089	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-603	12/21/95	0.0067	ND(0.0005)	0.0057	ND(0.0005)	0.046	0.04	ND(0.0005)
MW-604	12/20/95	0.0022	ND(0.001)	0.0012	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
MW-605	12/20/95	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.018	0.014	ND(0.001)
MW-606	12/19/95	ND(0.0005)	ND(0.0005)	0.0074	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
MW-607	12/19/95	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Trip blank 1	12/13/95	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Trip blank 2	12/13/95	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Equipment blank	12/13/95	ND(0.0005)	0.00095	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)

Table 3-4. Total Petroleum Hydrocarbons in Groundwater and Carbon-Range Analysis, Powerine Refinery, Santa Fe Springs, California

Well	Date	TPH as Gasoline (8015) (mg/L)	Carbon Chain Range (ASTM 2887) C6-C7 (mg/L)	C8-C9 (mg/L)	C10-C11 (mg/L)	C12-C13 (mg/L)	C14-C15 (mg/L)	C16-C17 (mg/L)	C18-C19 (mg/L)	C20-C23 (mg/L)	C24-C27 (mg/L)	C28-C31 (mg/L)
MW-101	12/13/95	2.4	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-103	12/13/95	4.1	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-104	12/13/95	ND(0.5)	--	--	--	--	--	--	--	--	--	--
MW-105	12/21/95	ND(0.5)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
MW-106	12/20/95	0.79	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
MW-107	12/21/95	ND(0.5)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
MW-201	12/13/95	9	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-202	12/13/95	6.5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-203	12/13/95	0.64	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-204	12/13/95	12000	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-205	12/13/95	2.1	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-206	12/13/95	12	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-501	12/13/95	69	0.7	9.5	9.7	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-502	12/13/95	220	4	24	5.8	ND(5)	ND(5)	7.3	ND(5)	ND(5)	ND(5)	ND(5)
MW-503	12/13/95	8.2	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-504	12/13/95	99	0.4	12	15	9.5	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-600	12/13/95	3500	85	280	47	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)
MW-601	12/13/95	3500	140	680	200	22	31	27	10	ND(10)	ND(10)	ND(10)
MW-603	12/21/95	ND(0.5)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
MW-604	12/20/95	1.9	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
MW-605	12/20/95	ND(1)	--	--	--	--	--	--	--	--	--	--
MW-606	12/19/95	ND(0.5)	--	--	--	--	--	--	--	--	--	--
MW-607	12/19/95	1.2	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	1.1	26	2.6
Trip blank 1	12/13/95	ND(0.5)	--	--	--	--	--	--	--	--	--	--
Trip blank 2	12/13/95	--	--	--	--	--	--	--	--	--	--	--
Equipment blank	12/13/95	ND(0.5)	--	--	--	--	--	--	--	--	--	--

Table 3-4. Total Petroleum Hydrocarbons in Groundwater and Carbon-Range Analysis, Powerine Refinery, Santa Fe Springs, California

		Carbon Chain Range (ASTM 2887)				
Well	Date	C32-C35 (mg/L)	C36-C39 (mg/L)	C40-C43 (mg/L)	C44+ (mg/L)	Total C6-C44+ (mg/L)
MW-101	12/13/95	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-103	12/13/95	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-104	12/13/95	--	--	--	--	--
MW-105	12/21/95	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
MW-106	12/20/95	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
MW-107	12/21/95	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
MW-201	12/13/95	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-202	12/13/95	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-203	12/13/95	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-204	12/13/95	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-205	12/13/95	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-206	12/13/95	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-501	12/13/95	ND(5)	ND(5)	ND(5)	ND(5)	19.9
MW-502	12/13/95	ND(5)	ND(5)	ND(5)	ND(5)	41.1
MW-503	12/13/95	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
MW-504	12/13/95	ND(5)	ND(5)	ND(5)	ND(5)	36.9
MW-600	12/13/95	ND(20)	ND(20)	ND(20)	ND(20)	412
MW-601	12/13/95	ND(10)	ND(10)	ND(10)	ND(10)	1110
MW-603	12/21/95	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
MW-604	12/20/95	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
MW-605	12/20/95	--	--	--	--	--
MW-606	12/19/95	--	--	--	--	--
MW-607	12/19/95	1.3	ND(10)	ND(10)	ND(10)	31
Trip blank 1	12/13/95	--	--	--	--	--
Trip blank 2	12/13/95	--	--	--	--	--
Equipment blank	12/13/95	--	--	--	--	--

Table 3-5. Chromatogram Assessments of Groundwater Samples from Powerine Wells. (prepared by Powerine)

Well Number	Analytical Method	Sum of Concentrations (mg/L)	Proximity to Refinery	Chromatogram Assessment for All Analytical Procedures
MW-105	ASTM 2887	ND	Upgradient	-No discernible pattern
	Mod. EPA 8015	ND(0.5)		-Non-gasoline, broad range material
	EPA 8010	0.0922		-Benzene is approximately 25% of the aromatics
	EPA 8020 (BTEX)	0.0172		
MW-104	ASTM 2887	ND	Upgradient	-No discernible pattern
	Mod. EPA 8015	ND(0.5)		-Non-gasoline, broad range material
	EPA 8010	ND		-Light end volatiles (C4-C5) and heavy end volatiles (C11-C12) are present
	EPA 8020 (BTEX)	0.0036		
MW-106	ASTM 2887	ND	Upgradient	-No discernible pattern
	Mod. EPA 8015	0.79		-Non-gasoline, broad range material
	EPA 8010	0.0495		
	EPA 8020 (BTEX)	0.0355		
MW-205	ASTM 2887	ND	Inside Refinery	-Broad range material with indications of gasoline
	Mod. EPA 8015	2.1		-O-xylene is absent
	EPA 8010	0.1710		-Heavy concentrations exist in the C4-C6 range
	EPA 8020 (BTEX)	0.1663		
MW-101	ASTM 2887	ND	Inside Refinery	-Similar pattern to that of MW-205 in the light volatile and background hydrocarbons
	Mod. EPA 8015	2.4		
	EPA 8010	0.2614		-No gasoline is evident
	EPA 8020 (BTEX)	0.1052		
MW-204	ASTM 2887	ND	Inside Refinery	-Gasoline aromatics dominate (BTEX approx. = 75% total aromatics)
	Mod. EPA 8015	12000		-No peaks exist past C10 on the FID
	EPA 8010	0.0183		
	EPA 8020 (BTEX)	2.65		

Table 3-5. Chromatogram Assessments of Groundwater Samples from Powerine Wells. (prepared by Powerine)

Well Number	Analytical Method	Sum of Concentrations (mg/L)	Proximity to Refinery	Chromatogram Assessment for All Analytical Procedures
MW-107	ASTM 2887	ND	East of Refinery	-No discernible pattern
	Mod. EPA 8015	ND(0.5)		-Non-gasoline, broad range material
	EPA 8010	0.0345		
	EPA 8020 (BTEX)	0.0207		
MW-203	ASTM 2887	ND	Inside Refinery	-Similar pattern to MW-205 without indications of gasoline
	Mod. EPA 8015	0.64		
	EPA 8010	0.0451		
	EPA 8020 (BTEX)	0.0519		
MW-201	ASTM 2887	ND	Inside Refinery	-Mixture of gasoline (absent o-xylene) and other petroleum compounds
	Mod. EPA 8015	9		
	EPA 8010	0.3178		
	EPA 8020 (BTEX)	0.696		
MW-504	ASTM 2887	36.9	Inside Refinery	-Typical gasoline pattern
	Mod. EPA 8015	99		-Diesel portions may be present to C13
	EPA 8010	0.0305		
	EPA 8020 (BTEX)	6.83		
MW-202	ASTM 2887	ND	Inside Refinery	-Similar pattern to those of MW-201 and MW-504
	Mod. EPA 8015	6.5		-Mixture of gasoline and other compounds
	EPA 8010	0.0195		-Low o-xylene and toluene concentrations
	EPA 8020 (BTEX)	0.476		
MW-103	ASTM 2887	ND	Inside Refinery	-No discernible pattern
	Mod. EPA 8015	4.1		-Four individual compounds present in the volatile range
	EPA 8010	0.0043		
	EPA 8020 (BTEX)	0.4244		

Table 3-5. Chromatogram Assessments of Groundwater Samples from Powerine Wells. (prepared by Powerine)

Well Number	Analytical Method	Sum of Concentrations (mg/L)	Proximity to Refinery	Chromatogram Assessment for All Analytical Procedures
MW-503	ASTM 2887	ND	Inside Refinery	-Similar pattern to those of MW-201 and MW-504
	Mod. EPA 8015	8.2		-Distinct gasoline pattern
	EPA 8010	0.2674		
	EPA 8020 (BTEX)	0.809		
MW-206	ASTM 2887	ND	Inside Refinery	-No discernible pattern
	Mod. EPA 8015	12		-Broad range material
	EPA 8010	ND		-Some light end hydrocarbons exist
	EPA 8020 (BTEX)	0.258		
MW-502	ASTM 2887	41.1	Inside Refinery	-Substantially weathered gasoline pattern
	Mod. EPA 8015	220		-Toluene concentration approx. = 2%, which is less than the 7%
	EPA 8010	0.0150		concentration in fresh gasoline
	EPA 8020 (BTEX)	19.65		
MW-501	ASTM 2887	19.9	Inside Refinery	-Similar pattern to those of MW-201, MW-202, MW-503, and MW-504
	Mod. EPA 8015	69		-Distinct gasoline pattern with minimal weathering
	EPA 8010	0.0203		
	EPA 8020 (BTEX)	4.78		
MW-600	ASTM 2887	412	Immediately Down-	-Distinct gasoline pattern with minimal weathering
	Mod. EPA 8015	3500	gradient of Refinery	
	EPA 8010	0.005		
	EPA 8020 (BTEX)	182		
MW-601	ASTM 2887	1110	Immediately Down-	-Distinct gasoline pattern with minimal weathering
	Mod. EPA 8015	3500	gradient of Refinery	-Some diesel range hydrocarbons (approximately 8%) are present
	EPA 8010	0.0096		
	EPA 8020 (BTEX)	265		

Table 3-5. Chromatogram Assessments of Groundwater Samples from Powerine Wells. (prepared by Powerine)

Well Number	Analytical Method	Sum of Concentrations (mg/L)	Proximity to Refinery	Chromatogram Assessment for All Analytical Procedures
MW-604	ASTM 2887	ND	Downgradient	-No discernible pattern
	Mod. EPA 8015	1.9		-Not gasoline in nature
	EPA 8010	0.0034		
	EPA 8020 (BTEX)	0.1921		
MW-603	ASTM 2887	ND	West and	-No discernible pattern
	Mod. EPA 8015	ND(0.5)	Downgradient	-Benzene and toluene are approximately 50% of aromatics
	EPA 8010	0.1452		
	EPA 8020 (BTEX)	0.0063		
MW-607	ASTM 2887	31	Downgradient	-Not gasoline in nature
	Mod. EPA 8015	1.2		-Highest peaks at C26-C28
	EPA 8010	0.0011		
	EPA 8020 (BTEX)	0.0476		
MW-605	ASTM 2887	ND	West and	-No distinct pattern probably due to low concentrations
	Mod. EPA 8015	ND(1)	Downgradient	
	EPA 8010	0.0381		
	EPA 8020 (BTEX)	0.0149		
MW-606	ASTM 2887	ND	Downgradient	-No discernible pattern due to non-detectable concentrations
	Mod. EPA 8015	ND(0.5)		
	EPA 8010	0.0074		
	EPA 8020 (BTEX)	ND		

Notes:

1. Wells are listed from the northern-most well and extending southward. Wells located on the same east-west axis are listed beginning from the western-most direction and extending eastward.
2. The abscence of distinct refined product patterns and the presence of broad range hydrocarbons may indicate background concentrations of crude oil in groundwater.

ND: Not detected. Detection limits listed in Tables 3-3 and 3-4.

Table 3-6. Inorganic Compounds in Groundwater, Powerine Refinery, Santa Fe Springs, California.

Well	Date	Temperature (°C)	pH	Conductivity (μmhos/cm at 25°C)	Dissolved Lead (mg/L)
MW-101*	12/12/95	20	7.87	1743	ND(0.050)
MW-103*	12/12/95	24	6.69	1742	ND(0.050)
MW-104*	12/12/95	23	7.11	3016	ND(0.050)
MW-105	1/10/96	27	6.78	2397	0.005
MW-106	1/10/96	25	6.95	2200	0.010
MW-107	1/10/96	26	6.97	2655	ND(0.005)
MW-201*	12/12/95	20	7.09	803	ND(0.050)
MW-202*	12/12/95	22	6.26	1018	ND(0.050)
MW-203*	12/12/95	22	--	2437	ND(0.050)
MW-204*	12/12/95	24	7.02	1887	ND(0.050)
MW-205*	12/12/95	21	9.21	1774	ND(0.050)
MW-206*	12/12/95	20	9.02	1302	ND(0.050)
MW-501*	12/12/95	21	7.35	1440	ND(0.050)
MW-502*	12/12/95	22	7.06	1909	ND(0.050)
MW-503*	12/12/95	--	--	--	ND(0.050)
MW-504*	12/12/95	22	7.21	1680	ND(0.050)
MW-600*	12/12/95	21	7.20	1424	0.33
MW-601*	12/12/95	--	--	--	0.17
MW-603	1/10/96	22	6.72	1780	ND(0.005)
MW-604	1/10/96	19	6.82	1136	ND(0.005)
MW-605	1/10/96	20	7.02	1701	ND(0.005)
MW-606	1/10/96	19	7.27	1224	ND(0.005)
MW-607	1/10/96	19	6.95	1835	ND(0.005)
Equipment blank*	12/12/95	--	--	--	ND(0.005)
Equipment blank	1/10/96	--	--	--	ND(0.005)

*: Sampled by Miller Brooks
--: Data not available

Table 4-1. Torco Property Soil Analytical Data. (prepared by Powerine)

Sample Designation	TPH via 8015(d) (mg/kg)	TRPH via 418.1 (mg/kg)	Hydrcarbons > C30 (mg/kg)	Δ% (TRPH-TPH)/TRPH
S-17-1	7158	1345	-5813	-432%
S-4.5-SE13(1ST)	2166	3562	1396	39%
S-4.5-SE13(2ND)	2048	2309	261	11%
S-19-11*	10	64	54	84%
S-13-SUMP	944	1038	94	9%
S-21-12	5877	11257	5380	48%
S-12-13	5588	14337	8749	61%
S-12-15	76	3264	3188	98%
S-21-12	539	16995	16456	97%
S-8-16B*	10	15	5	33%
S-16-17*	10	60	50	83%
S-11-21	890	2444	1554	64%
S-12-25*	10	34	24	71%
S-6-E35	1265	2875	1610	56%
S-7-E35A	7865	9936	2071	21%
S-8-E42	1355	3080	1725	56%
S-8-E42A	20	46	26	57%
S-12-E46	2829	4630	1801	39%
S-3-E58**	5	34	29	85%
S-8-E59	13714	18853	5139	27%
S-11-E63	5255	18100	12845	71%
S-15-B51	12800	14600	1800	12%
S-30-B51***	1	32	31	97%
S-40-B51*	10	15	5	33%
S-20-B52***	1	13	12	92%
S-70-B52***	1	14	13	93%
S-80-B52*	10	16	6	38%
S-60-B53***	1	53	52	98%
S-70-B53***	1	15	14	93%
S-80-B53*	10	16	6	38%
S-20-B54	3000	39500	36500	92%
S-40-B54***	1	515	514	100%
S-75-B54***	1	36	35	97%
S-85-B54***	1	17	16	94%
S-5-B55	NA	4930	NA	NA
S-20-B55	10567	19600	9033	46%
S-45-B55***	1	49	48	98%
S-75-B55***	1	50	49	98%
S-85-B55***	1	23	22	96%
S-5-B56	NA	11100	NA	NA
S-20-B56***	1	22	21	95%
S-50-B56	NA	10	NA	NA
S-75-B56***	1	38	37	97%
S-5-B57	NA	18900	NA	NA
S-15-B57***	1	20	19	95%
S-40-B57***	1	25	24	96%

Table 4-1. Torco Property Soil Analytical Data. (prepared by Powerine)

Sample Designation	TPH via 8015(d) (mg/kg)	TRPH via 418.1 (mg/kg)	Hydrcarbons > C30 (mg/kg)	Δ% (TRPH-TPH)/TRPH	
S-50-B57***	1	20	19	95%	
S-60-B57***	1	19	18	95%	
S-10-B58	597	388	-209	-54%	
S-18-B58	1320	2070	750	36%	
S-10-B59	19	164	145	88%	
S-18-B59	86	704	618	88%	
S-10-B60*	10	50	40	80%	
S-14-B60*	10	17	7	41%	
S-10-B61	39	69	30	43%	
S-15-B61*	10	16	6	38%	
umber of Sample Points	52	56			
Mean	1657	4061	2045	56%	(TRPH= 2.23TPH)
Standard Deviation	3316.0	7655.9	5990.5	77%	

Sample Designation: S-*sample depth*-*sample location*
NA=Data not available
* = Result ND<10 mg/kg
** = Result ND<5 mg/kg
*** = Result ND<1 mg/kg

S-4.5 -SE13A (1st) same as SE-4.5-SE13A , SE-4.5-SE13A has been deleted

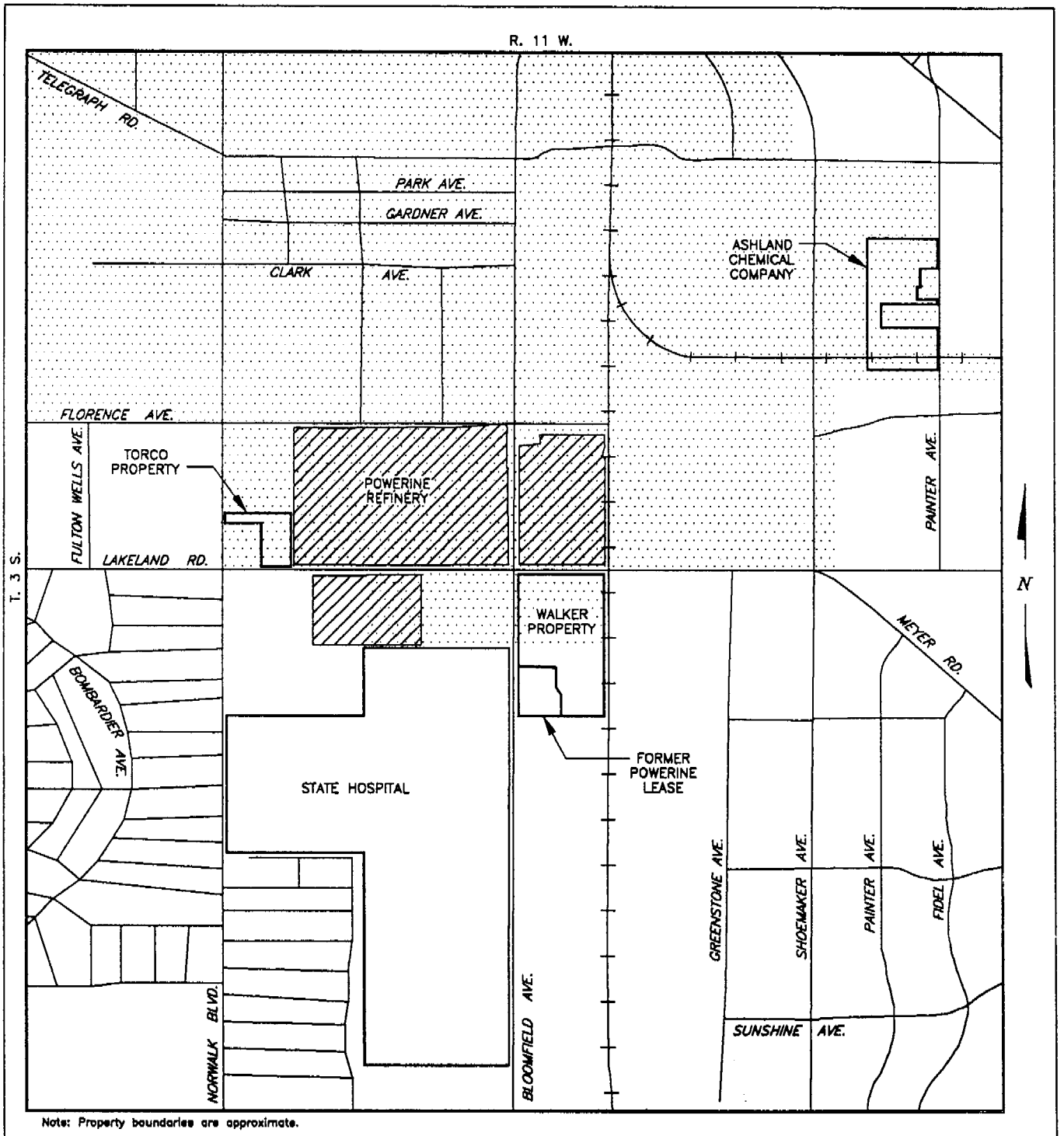


FIGURE 1-1 :POWERINE REFINERY AND SURROUNDING PROPERTIES

PRPGWC02

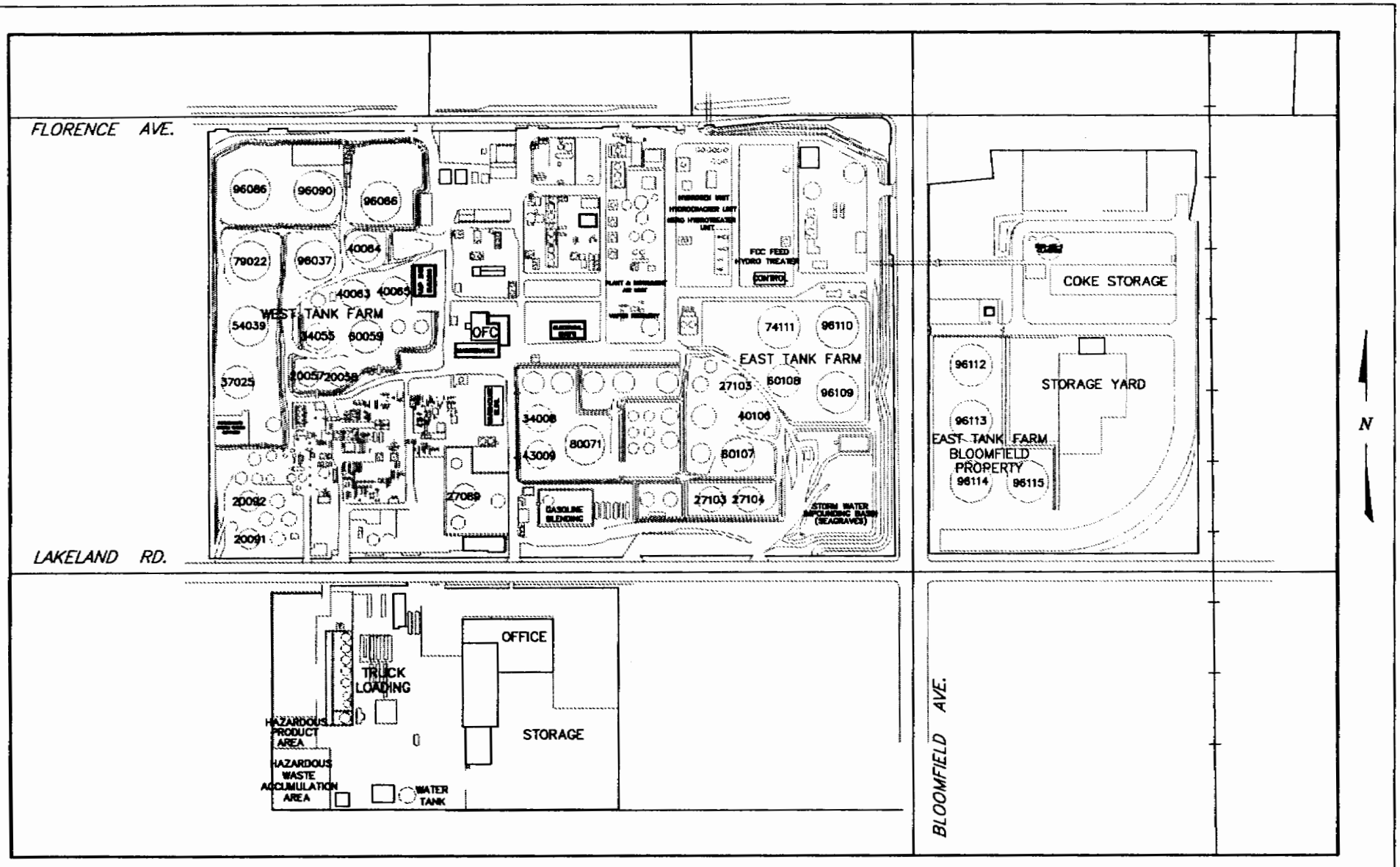


FIGURE 1-2 :POWERINE REFINERY UNITS

PRFACIL2

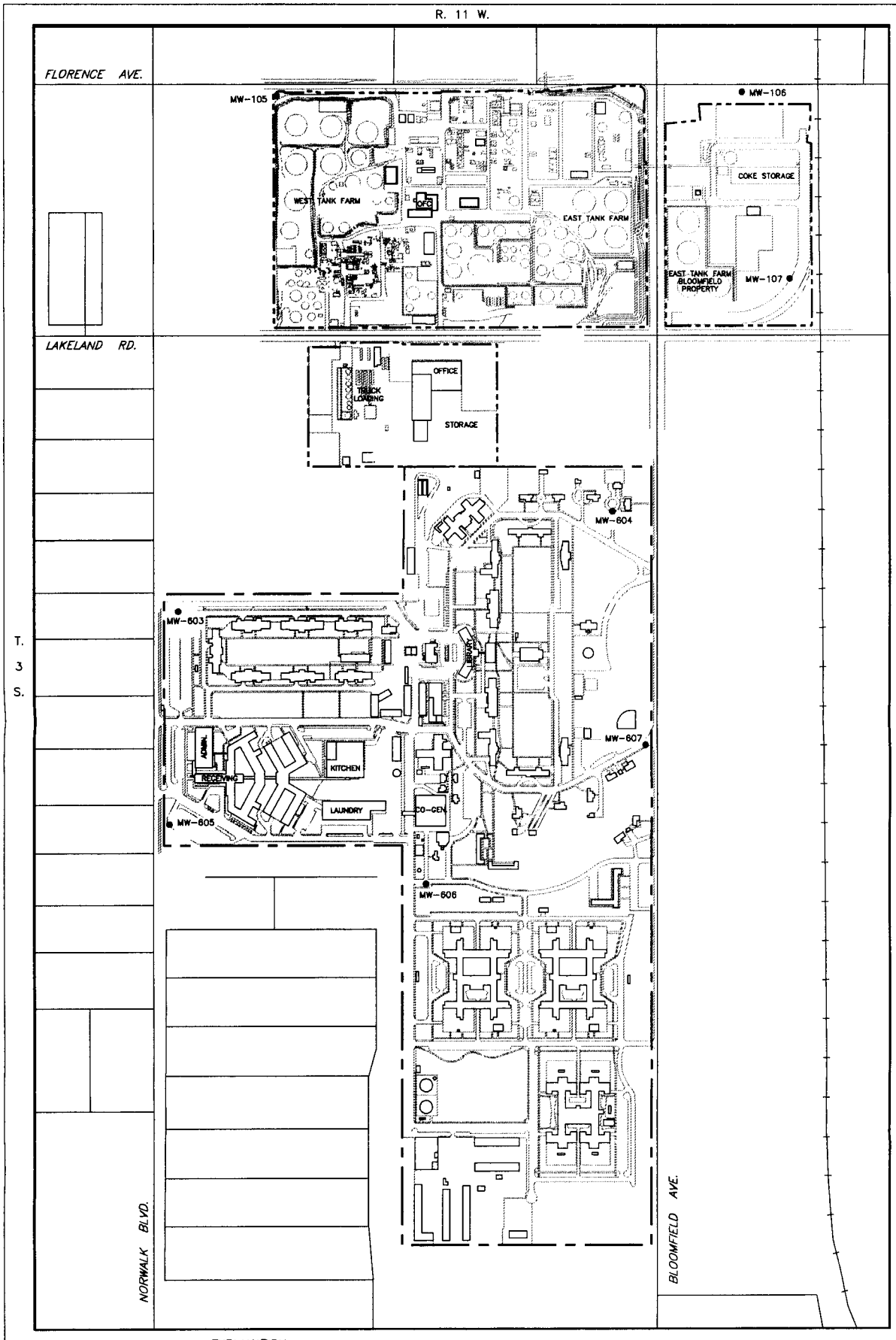
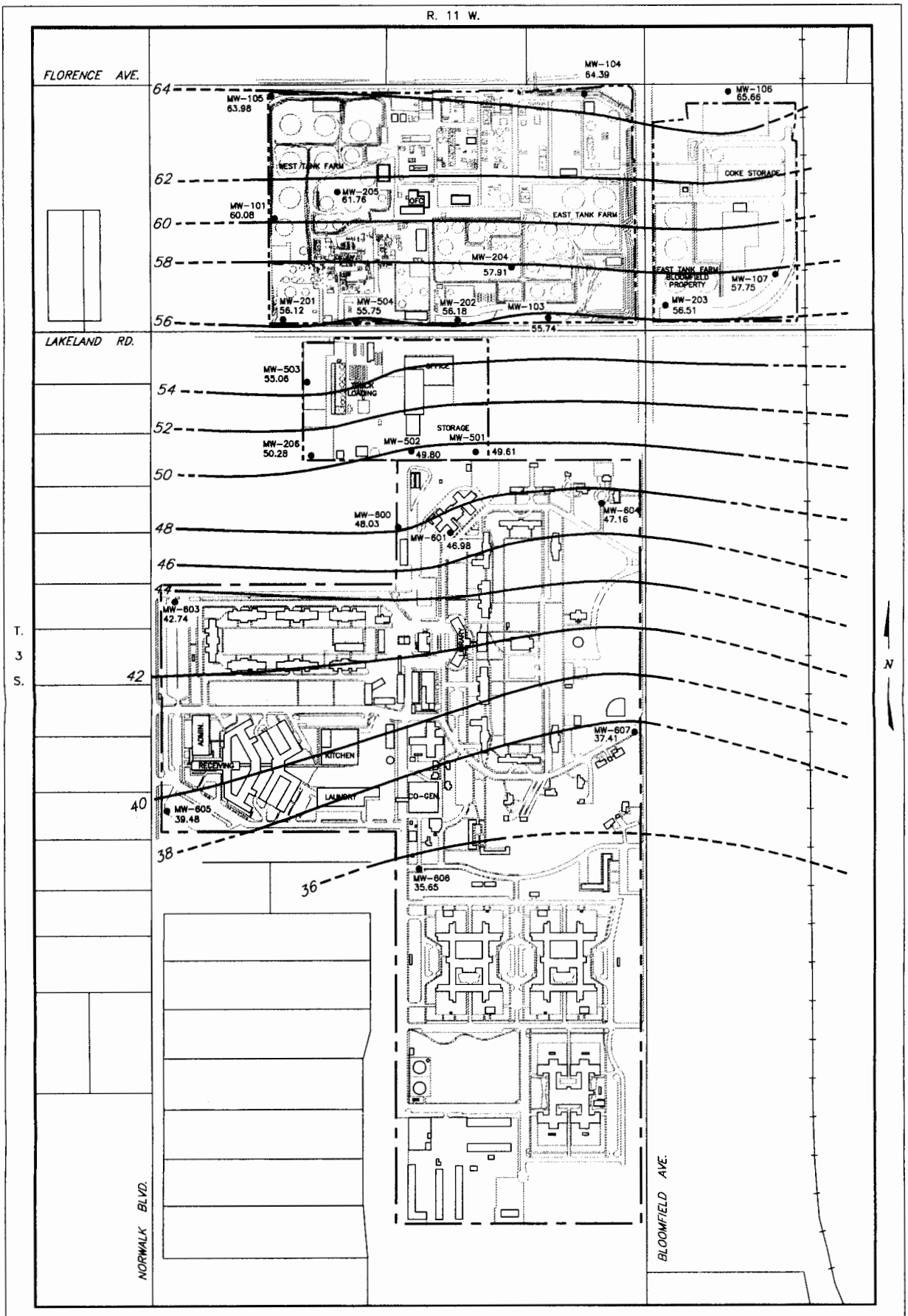


FIGURE 2-1 :GROUNDWATER MONITORING WELLS INSTALLED IN DECEMBER 1995

PRNEWELL



EXPLANATION

- MW-605 39.48 — MONITORING WELL LOCATION AND GROUNDWATER ELEVATION (ft-msl)
- 50 — LINE OF EQUAL GROUNDWATER ELEVATION (ft-msl, dashed where inferred)
- POWERINE PROPERTY BOUNDARY
- METROPOLITAN STATE HOSPITAL PROPERTY BOUNDARY

0 500 ft.
SCALE

FIGURE 3-1 :GROUNDWATER FLOW MAP, POWERINE REFINERY AREA
(December 1995 - January 1996)

PRSW1295

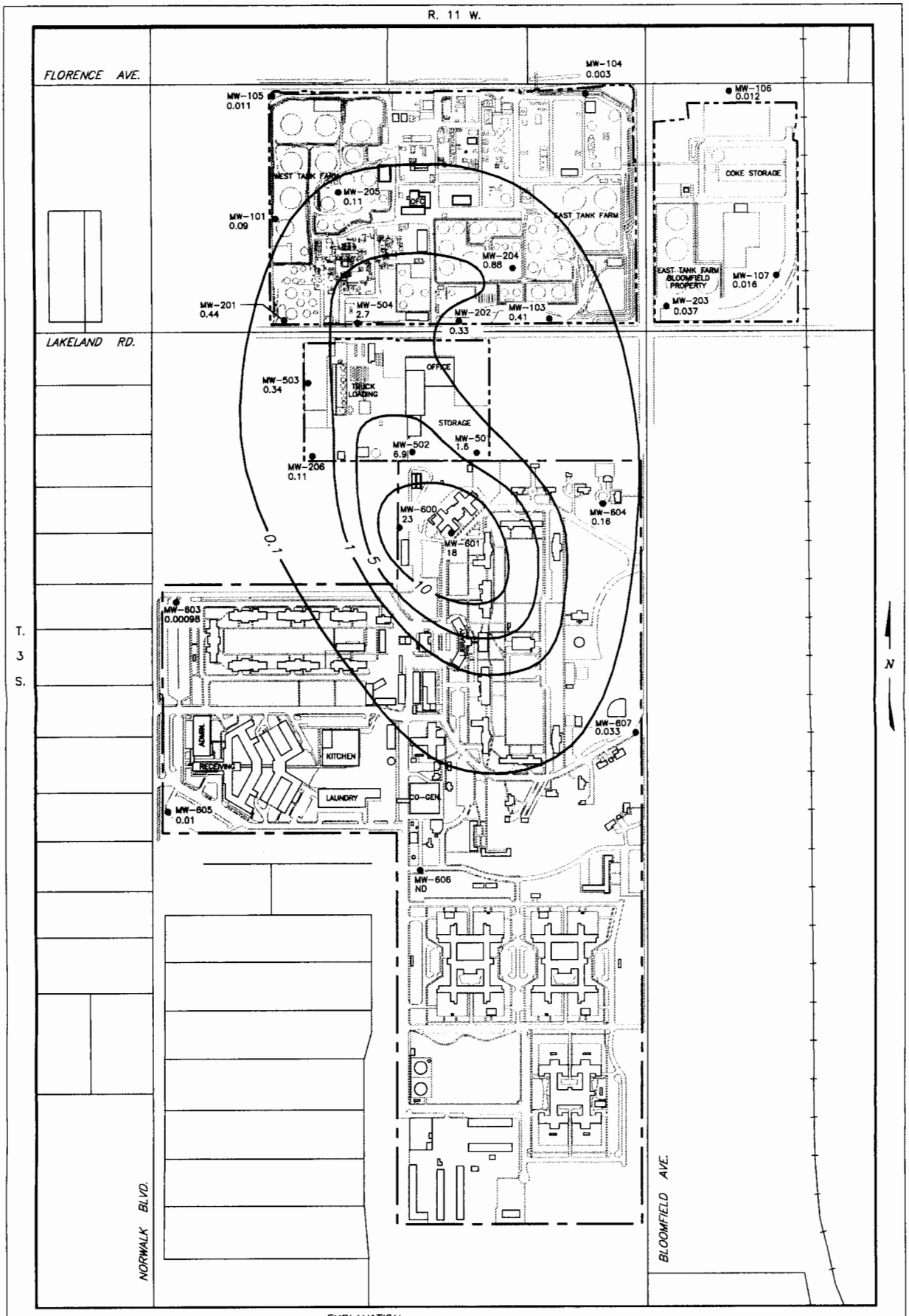


FIGURE 3-2 :BENZENE IN GROUNDWATER, POWERINE REFINERY AREA (December 1995)

PRBZ1295

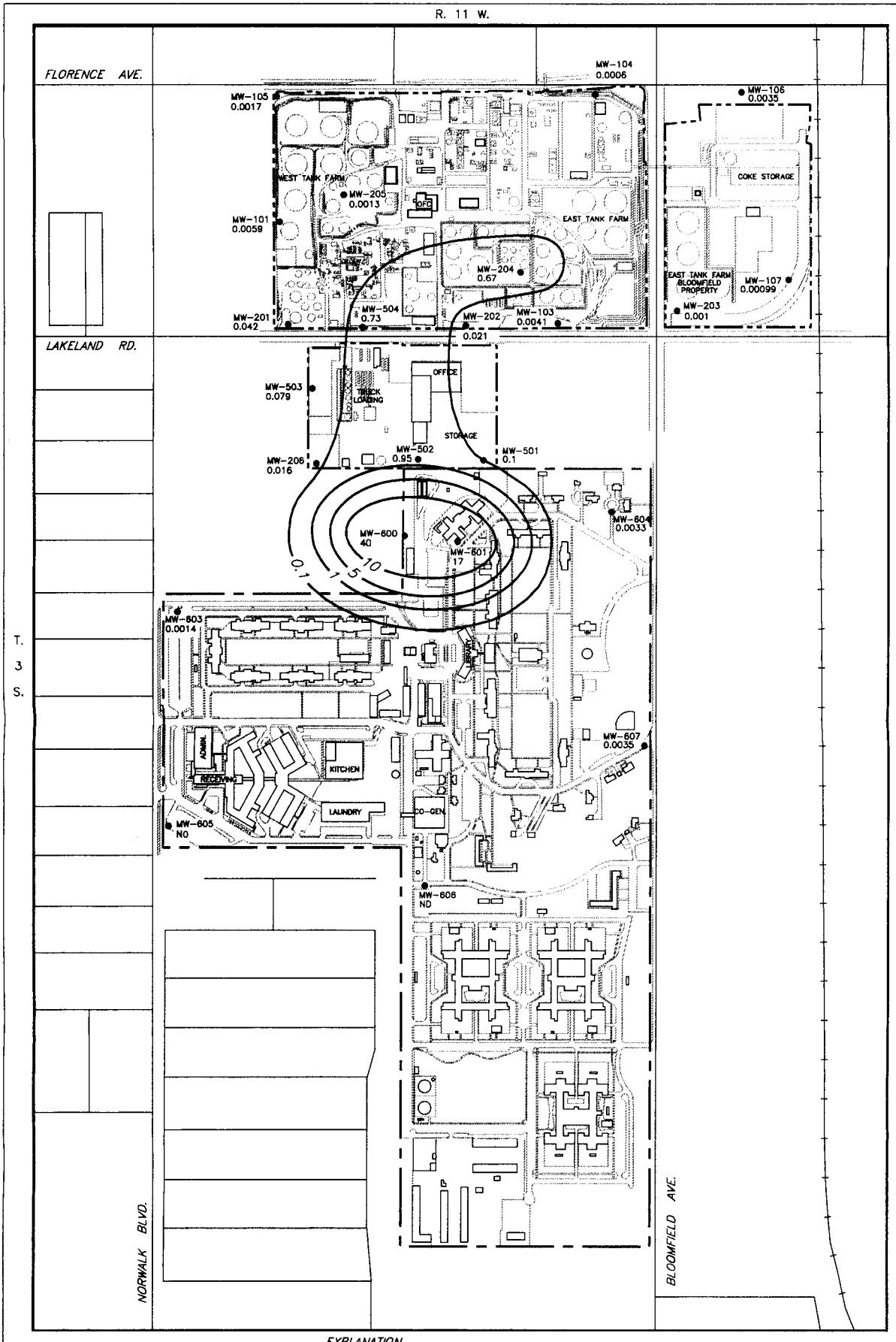


FIGURE 3-3 :TOLUENE IN GROUNDWATER, POWERINE REFINERY AREA (December 1995)

PRT01295

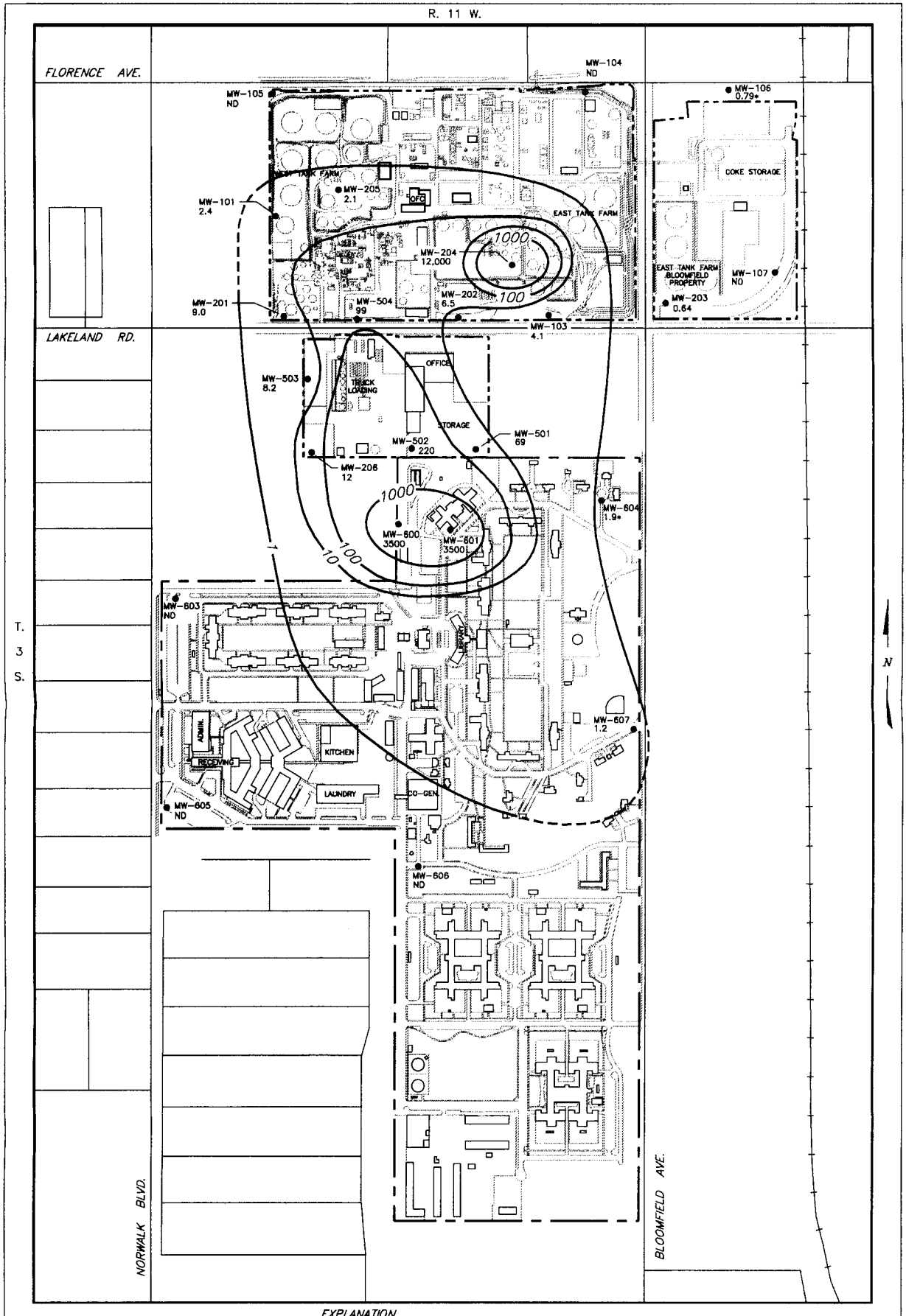


FIGURE 3-4 :TOTAL PETROLEUM HYDROCARBONS AS GASOLINE IN GROUNDWATER, POWERINE REFINERY AREA (December 1995)

PRTH1295

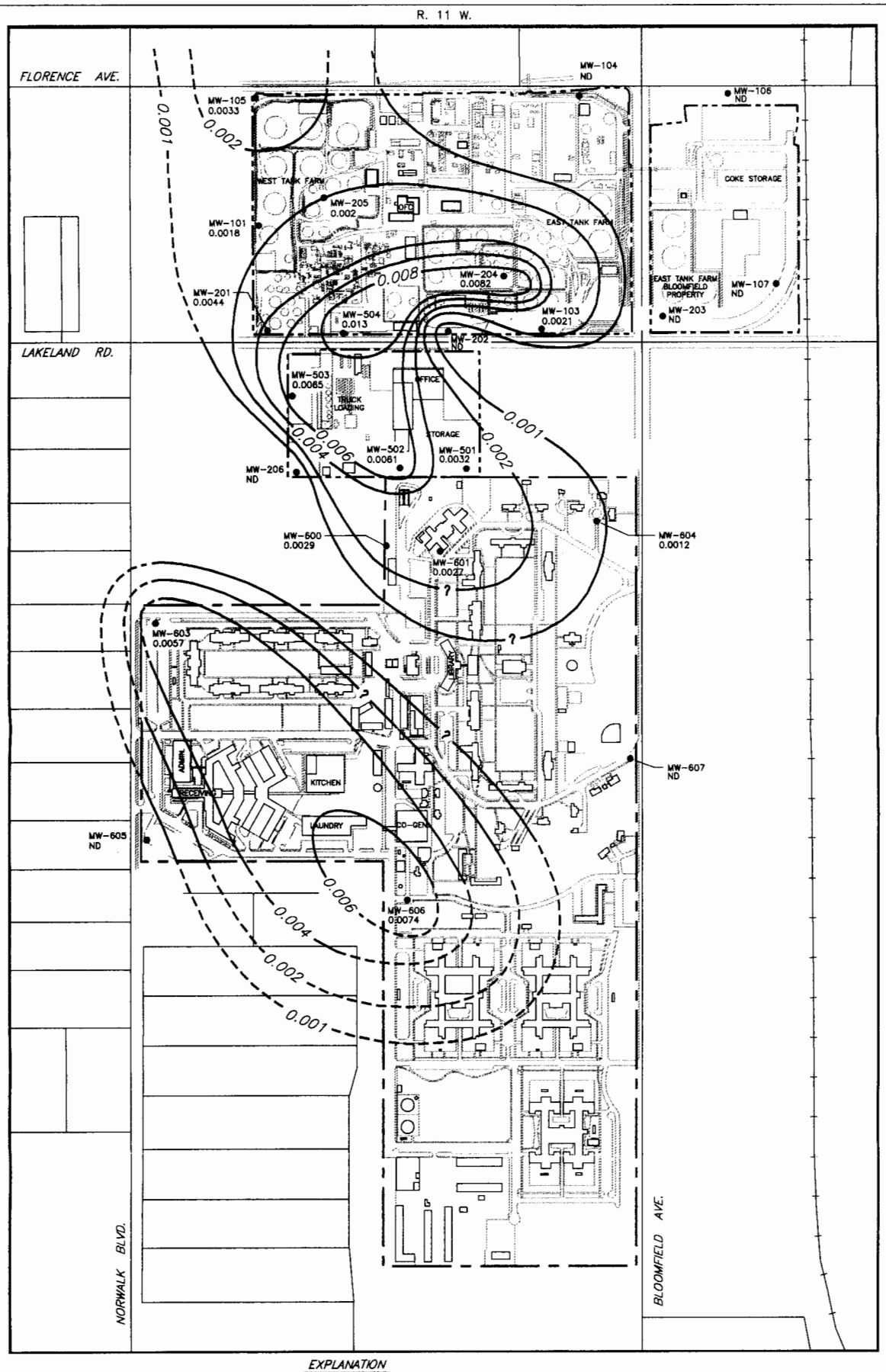


FIGURE 3-5 :1,2-DICHLOROETHANE IN GROUNDWATER, POWERINE REFINERY AREA (December 1995)

PR121295

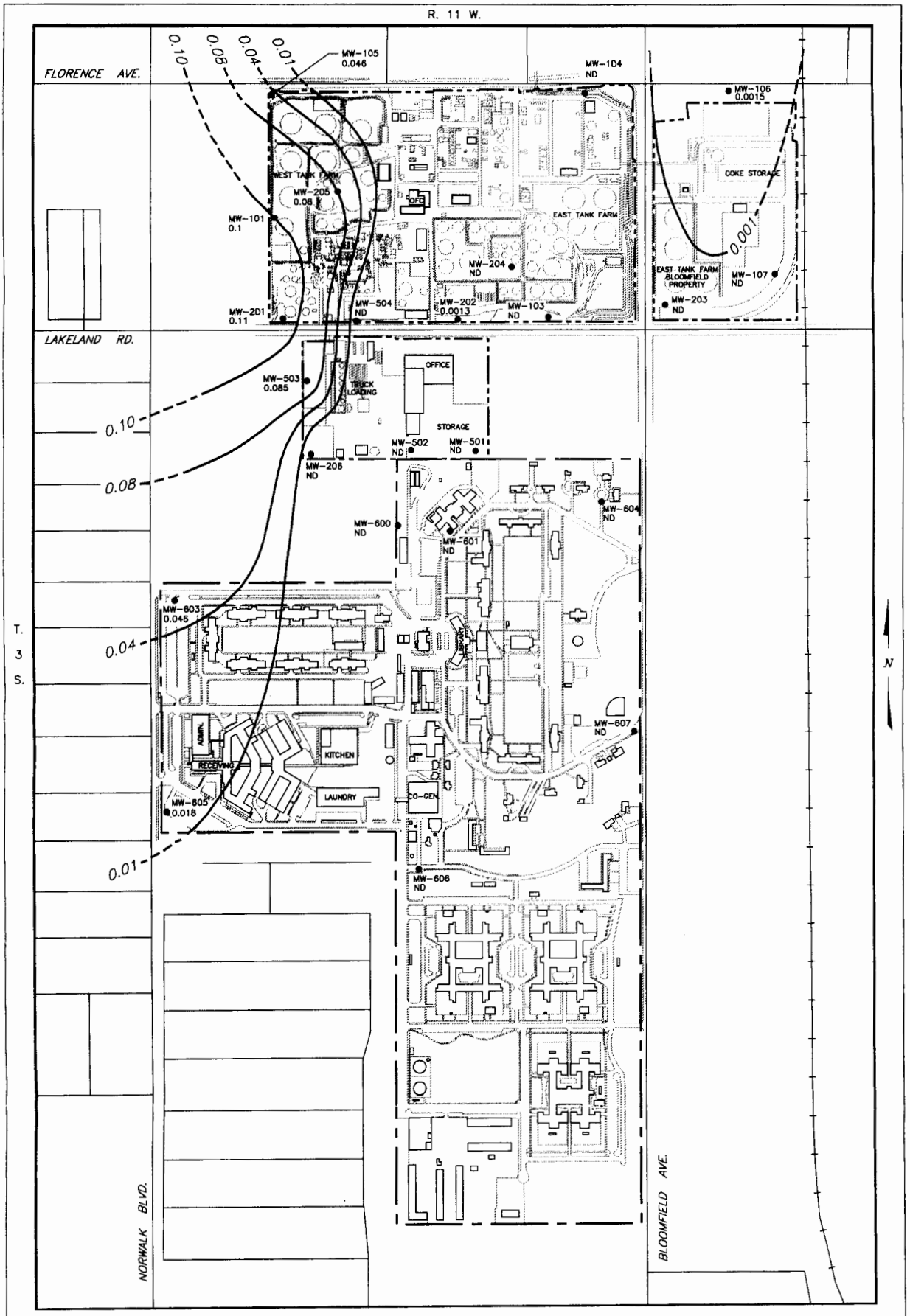
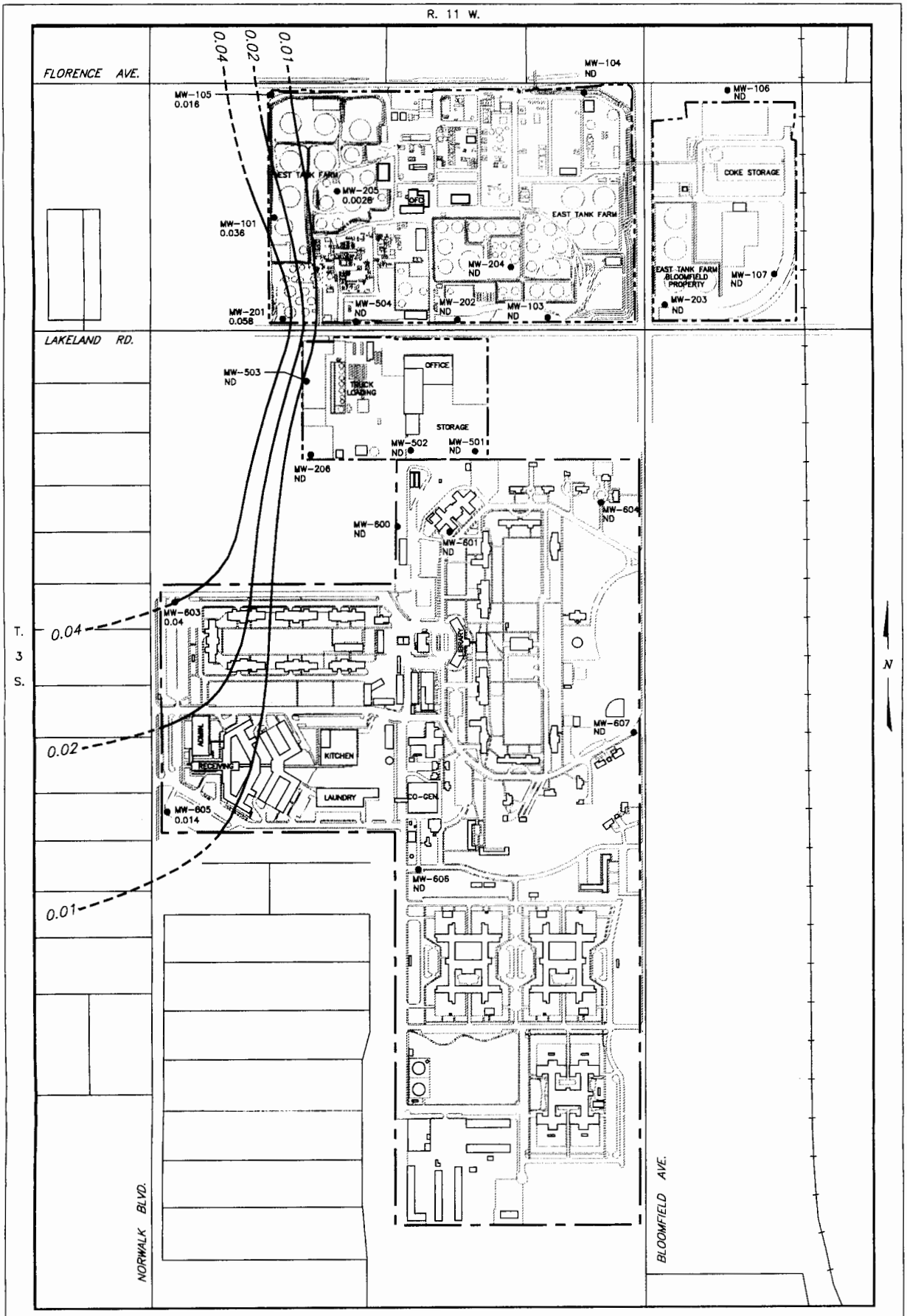


FIGURE 3-6 :TCE IN GROUNDWATER, POWERINE REFINERY AREA (December 1995)

PRTC1295



EXPLANATION

- MW-605 0.014 — MONITORING WELL LOCATION AND PCE CONCENTRATION (mg/L)
- 0.04 — LINE OF EQUAL PCE CONCENTRATION IN GROUNDWATER (mg/L, dashed where inferred)
- POWERINE PROPERTY BOUNDARY
- METROPOLITAN STATE HOSPITAL PROPERTY BOUNDARY
- ND = NOT DETECTED

0 500 ft.
SCALE

FIGURE 3-7 :PCE IN GROUNDWATER, POWERINE REFINERY AREA (December 1995)

PRPC1295

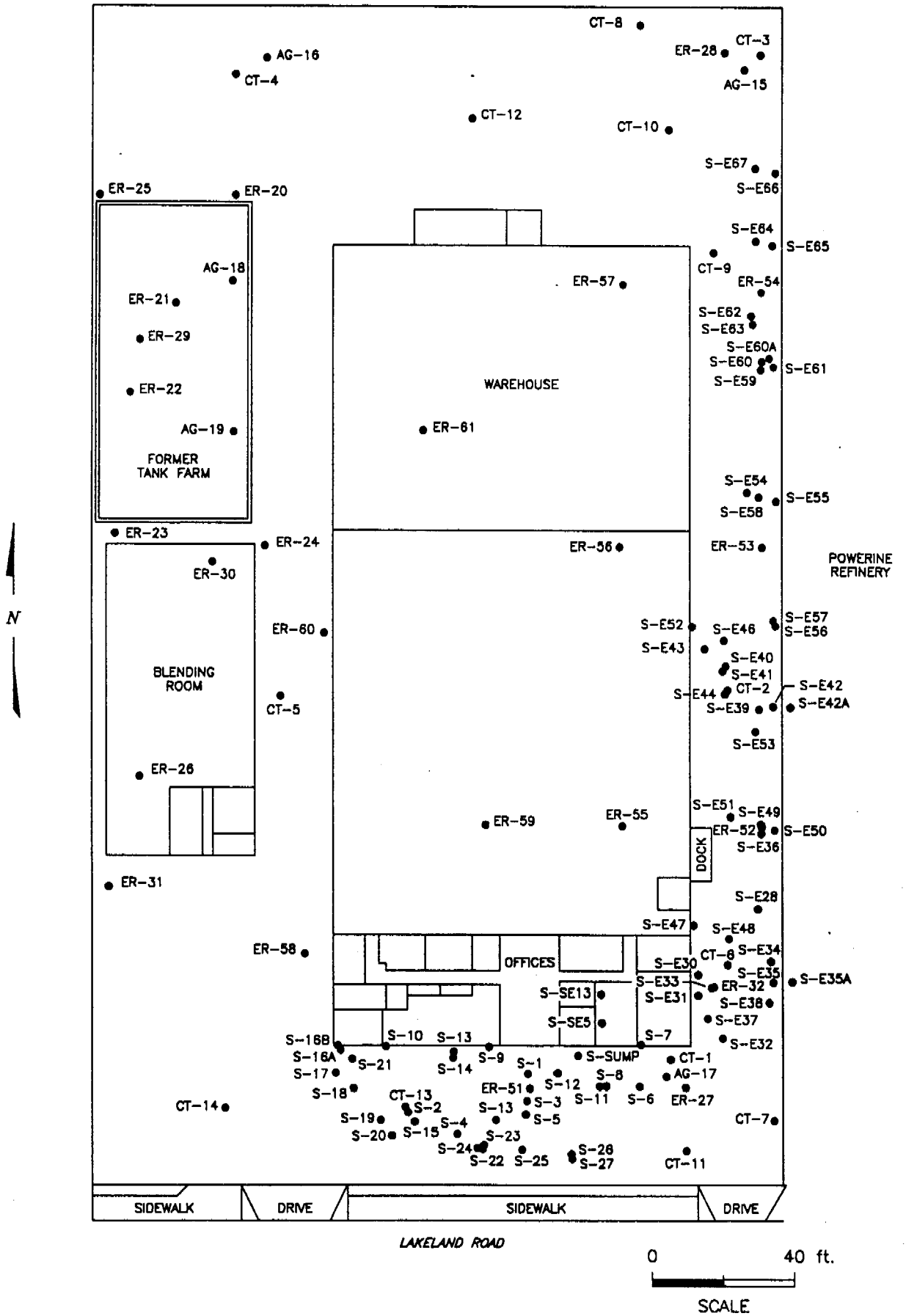


FIGURE 4-3 :TORCO PROPERTY SOIL SAMPLING LOCATIONS
(from Environmental Resolutions, Inc., 1992)

PRTPHCON

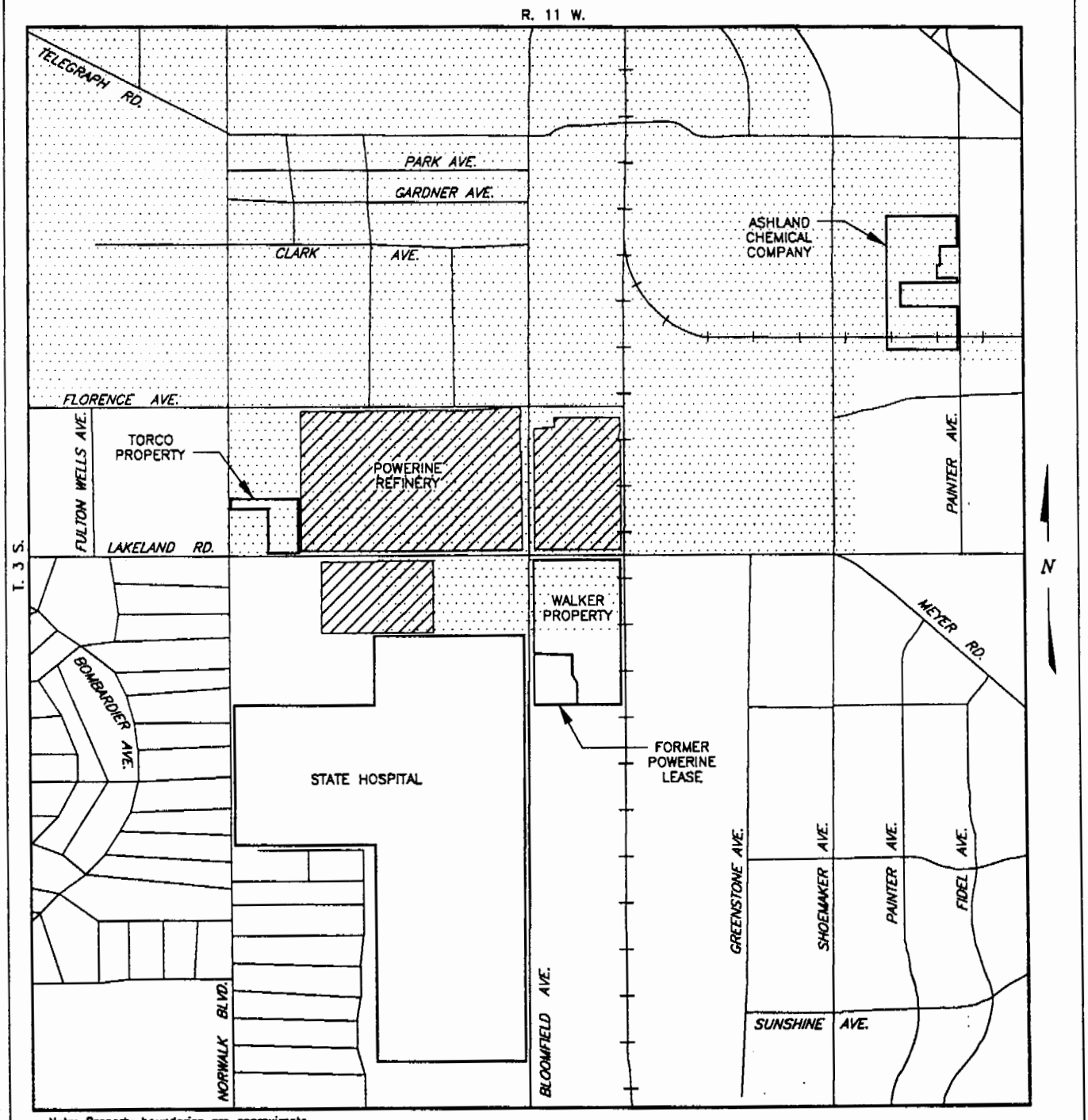


FIGURE 4-1 :POTENTIAL GROUNDWATER CONTAMINATION SOURCES NEAR THE POWERINE REFINERY

PRPGWCON

FIGURE 4-2
1927 TOPOGRAPHIC MAP SHOWING OIL PRODUCTION AND DISPOSAL NEAR THE POWERINE REFINERY

TOPOGRAPHIC MAP

~ SHOWING ~

DIRECTION OF THE SURFACE RUNOFF AND OIL SOAKED AREAS

IN RELATION TO THE

NORWALK STATE HOSPITAL SITE

J. E. ROCKHOLD COUNTY SURVEYOR

County Surveyors Map Nº 8930
Surveyed May 1927

PLANE TABLE

SCALE : 1" = 200'

Sht. 33

8930
OF A2

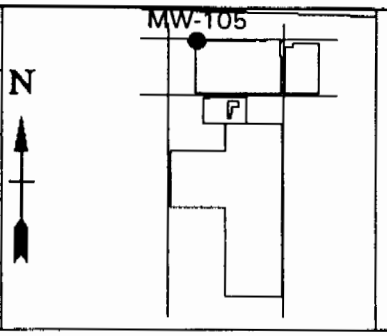
Norwalk and Puente Mills Rd. changed to Norwalk Blvd. O:49-105

TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

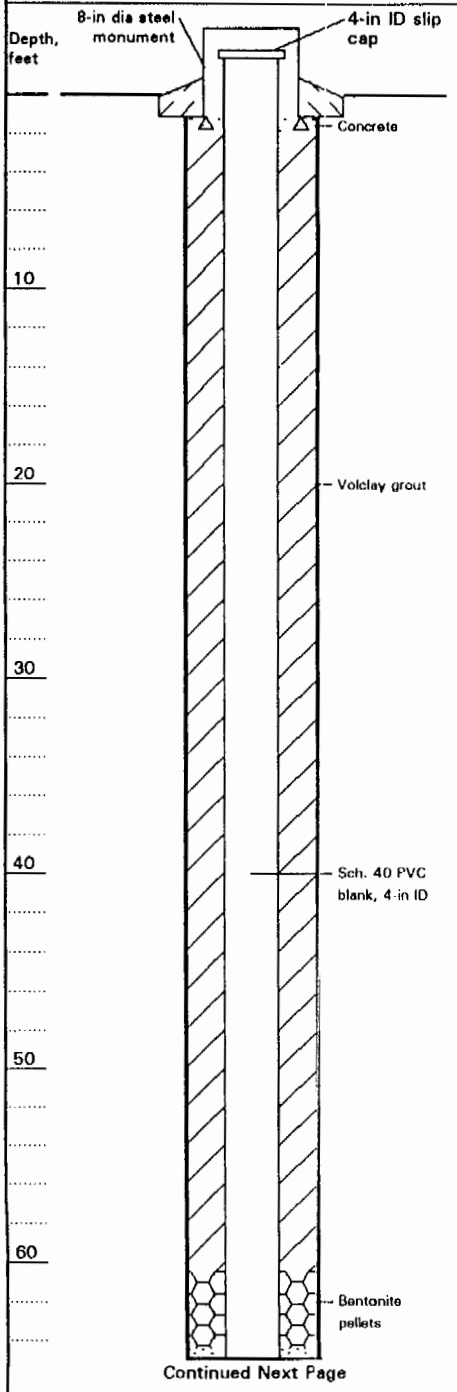
Well Log

Well: **MW-105**

Client: **Powerine Oil Company, Santa Fe Springs**		
Date Started: **DEC 17 95**	Date Completed: **DEC 17 95**	Permit Number:
Logged By: **E. Hill**	Driller: **Arturo Carrera**	1/4, 1/4, S, T, R:
Drilling Co.: **Layne Environmental Ser**	Drilling Rig: **CME-95**	Borehole Diameter: **12"**
Method: **Hollow-Stem Auger**	Measuring Point Elev. (ft.-msl): **138.63**	Sample Type: **Mod Cal split spoon**
Total Depth (ft): **100**	Ground Surface Elev. (ft.-msl): **137.1**	Location: **NW corner of property, outside tank farm dikes**



CONSTRUCTION



SAMPLING DATA / LITHOLOGY

Depth, feet	Graphic Log	TOV Values (ppmv)	Blow Count Recovery	Visual Description
10		0	5-6-7 9"	Clayey SILT (ML), medium yellowish brown, firm, moist, low plasticity, few caliche specks, minor manganese staining
20		0	7-20-22 13"	- as above, grading to: Silty SAND (ML), very fine to fine grained, trace medium grained, non-plastic
30		5	13-16-20 18"	Silty CLAY (CL), grayish brown, firm to stiff, moist, moderate to highly plastic, trace angular gravel to 1" dia, mottled with gray and light orange
40		3	17-25-29 15"	- as above, changing to gray with lesser orange mottling, stiff, slight hydrocarbon odor
50		20	17-29-15/6" 16"	SAND (SW), very fine to very coarse grained, light gray, very dense, moist
60		70	30-50/6" 8"	- as above, trace gravel to 1/2" dia

Interval Sampled
Sample Retained

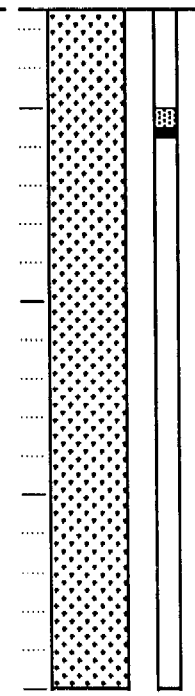
TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

Well Log

Client:

Powerine Oil Company, Santa Fe Springs

CONSTRUCTION	SAMPLING DATA		LITHOLOGY
Depth, feet	TOV Values (ppmv)	Blow Count Recovery	Visual Description
Continued			
70	115	40-50/6" 7"	- as above, increasing moisture
Ground water measured 1/9/96			
#2/12 Monterey sand			
80 Ground water encountered 12/17/95			
Sch. 40 PVC screen, 0.020-in factory slot, 4-in ID			
90			
Threaded PVC cap			
100			



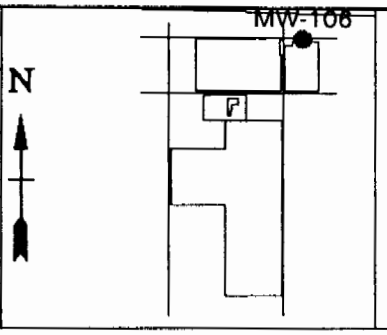
Interval Sampled
Sample Retained

TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

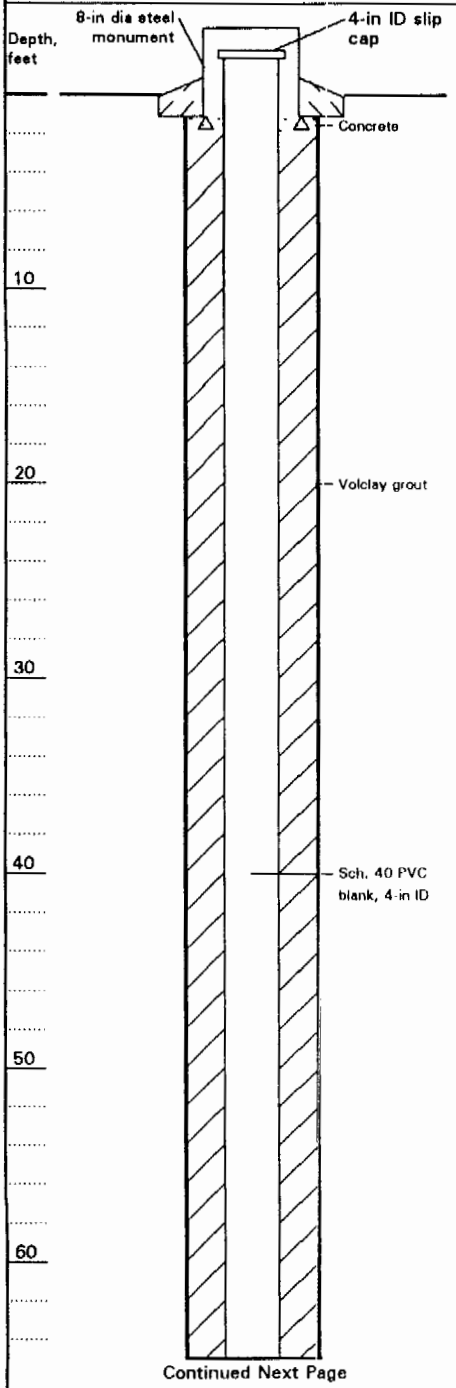
Well Log

Well: **MW-106**

Client: **Powerine Oil Company, Santa Fe Springs**		
Date Started: **DEC 16 95**	Date Completed: **DEC 17 95**	Permit Number:
Logged By: **E. Hill**	Driller: **Arturo Carrera**	1/4, 1/4, S, T, R:
Drilling Co.: **Layne Environmental Ser**	Drilling Rig: **CME-95**	Borehole Diameter: **12"**
Method: **Hollow-Stem Auger**	Measuring Point Elev. (ft.-msl): **148.41**	Sample Type: **Mod Cal split spoon**
Total Depth (ft): **105**	Ground Surface Elev. (ft.-msl): **146.3**	Location: **East Tank Farm, north of coke barn, in contractors pkg lot.**



CONSTRUCTION



SAMPLING DATA / LITHOLOGY

Depth, feet	Graphic Log	TOV Values (ppmv)	Blow Count Recovery	Visual Description
				FILL: sand, silt, clay, concrete, rip rap
				Silty CLAY (CL), yellowish brown, stiff, moist, caliche streaks
10		NA	11-25-32 8"	- as above, no odor
20		10	7-11-14 9"	SILT and CLAY (CL-ML), dark yellowish orange mottled with light yellowish orange, firm, moist
30		No sample, rock.	17-50/6" 0"	
40		44	14-17-20 14"	Clayey SAND (SC), very fine to very coarse grained, olive gray, dense, moist, 30-40% clay, primarily in pockets, trace gravel to 1/4" dia
50		6	11-18-20 16"	CLAY (CH), olive gray mottled with medium gray, firm, moist, moderate to highly plastic
60		53	20-50/6"	SAND (SP), very fine to medium grained, light gray, moist
				CLAY (CH), medium gray, stiff, moist, plastic

Interval Sampled
Sample Retained

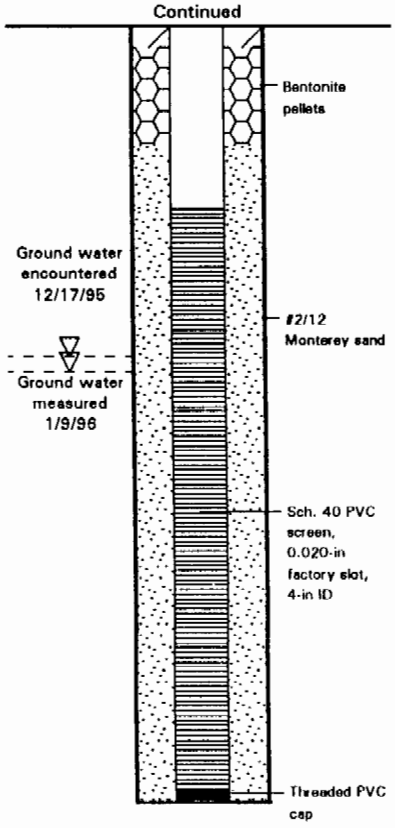
TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

Well Log

Client:

Powerine Oil Company, Santa Fe Springs

CONSTRUCTION	SAMPLING DATA			LITHOLOGY
Depth, feet	Graphic Log	TOV Values (ppmv)	Blow Count Recovery	Visual Description
Continued				
70		20	29-50/6" 7"	SAND (SP), very fine to fine grained, light olive gray, very dense, moist
80		14	35-50/6" 7"	SAND (SW), very fine to very coarse grained, olive gray, very moist, 10-20% gravel to 1/2" dia
90				
100				



Interval Sampled
Sample Retained

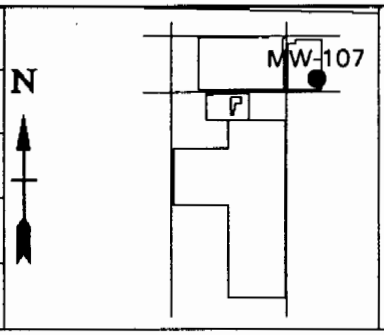
TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

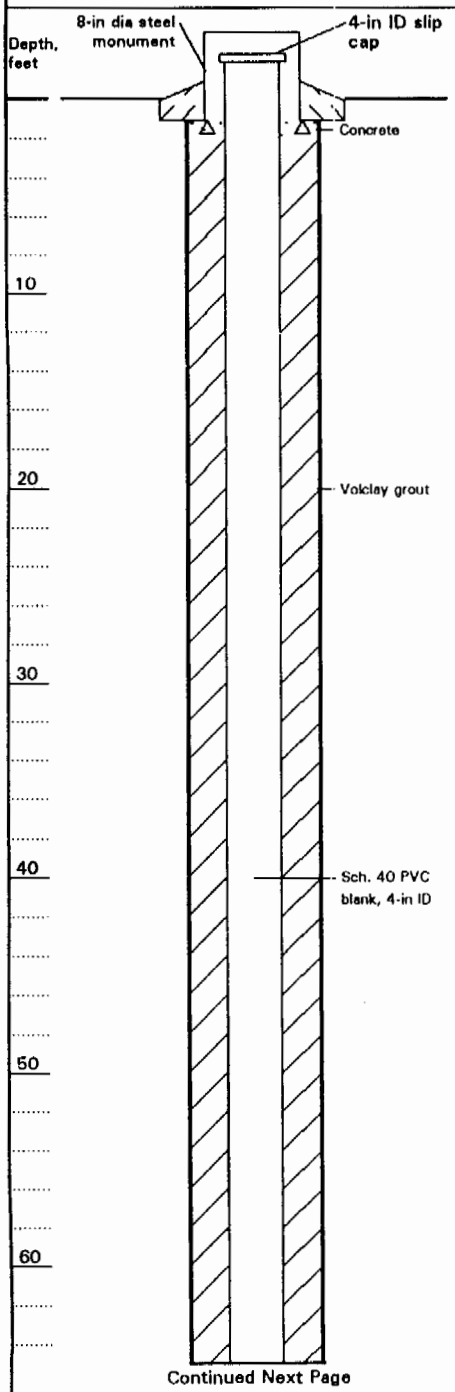
Well Log

Well: **MW-107**

Client: **Powerine Oil Company, Santa Fe Springs**

Date Started:	Date Completed:	Permit Number:
DEC 15 95	**DEC 16 95**	
Logged By:	Driller:	1/4, 1/4, S, T, R:
E. Hill	**Arturo Carrera**	
Drilling Co.:	Drilling Rig:	Borehole Diameter:
Layne Environmental Ser	**CME-95**	**12"**
Method:	Measuring Point Elev. (ft.-msl):	Sample Type:
Hollow-Stem Auger	**148.93**	**Mod Cal split spoon**
Total Depth (ft):	Ground Surface Elev. (ft.-msl):	Location:
105.5	**146.4**	**SE corner of East Tank Farm**





Depth, feet	Graphic Log	TOV Values (ppmv)	Blow Count Recovery	Visual Description
				GRAVEL (GW), to 2" dia, light gray, subangular to subrounded, road base
				Silty CLAY (CL), dark olive gray, moist
10		130	8-6-8 18"	- as above, medium brown, 20-30% sand, many small caliche spots, grading to:
				SAND (SW), very fine to coarse grained, light brown, moist
20		> 2000	3-4-6 18"	Sandy, silty CLAY (CL), medium brown, stiff, moist, moderate plasticity, 20-30% very fine to medium grained sand, no odor, grading to:
				Clayey SILT(ML), olive gray with dark orange mottling, stiff, moist, 10-20% very fine to fine grained sand
30		> 2000	15-17-29 12"	SAND (SW), very fine to very coarse grained, light olive gray, dense, moist
40		600	20-50/6" 9"	- as above, very dense, trace gravel to 1/2" dia
50		58	42-50/6" 9"	SAND (SP), fine to medium grained, trace coarse, yellowish orange, very dense, moist, dark orange streaks, no odor
60		> 2000	40-50/6" 8"	- as above, medium gray, very moist, no odor

Interval Sampled
Sample Retained

TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

Well Log

Well: **MW-107**

Client:
Powerine Oil Company, Santa Fe Springs

CONSTRUCTION		SAMPLING DATA			LITHOLOGY
Depth, feet		Graphic Log	TOV Values (ppmv)	Blow Count Recovery	Visual Description
	Continued				
70	Bentonite pellets		300	20-25-30 14"	SAND (SW), very fine to very coarse grained, medium gray, very dense, moist, trace gravel to 1/4" dia
80	#2/12 Monterey sand		160 Insufficient sample for analysis	40-50/6" 4"	- as above
	Ground water encountered 12/15/95 ▽				
90	Sch. 40 PVC screen, 0.020-in factory slot, 4-in ID		No recovery	45-50/6" 0"	- as above, water
	▽ Ground water measured 1/9/96				
100	Threaded PVC cap				High TOV values may be due to sample humidity .

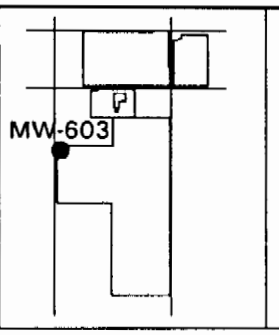
Interval Sampled
Sample Retained

TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

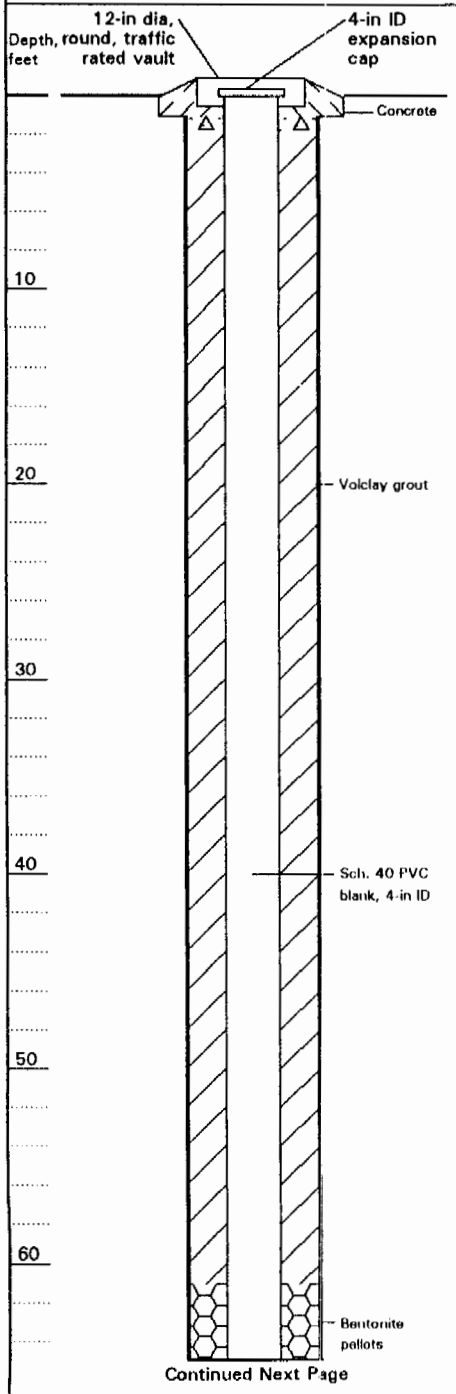
Well Log

Well: **MW-603**

Client: **Powerine Oil Company, Santa Fe Springs**		
Date Started: **DEC 19 95**	Date Completed: **DEC 19 95**	Permit Number:
Logged By: **E. Hill**	Driller: **Arturo Carrera**	1/4, 1/4, S, T, R:
Drilling Co.: **Layne Environmental Ser**	Drilling Rig: **CME-95**	Borehole Diameter: **12"**
Method: **Hollow-Stem Auger**	Measuring Point Elev. (ft.-msl): 118.54	Sample Type: **Mod Cal split spoon**
Total Depth (ft): **100.5**	Ground Surface Elev. (ft.-msl): 119.0	Location: **Metr. State Hosp, pkg lot at 2nd and Norwalk**



CONSTRUCTION / SAMPLING DATA / LITHOLOGY



TOV Values (ppmv)	Blow Count Recovery	Visual Description
		Silty CLAY (CL), brown, firm, moist, moderately plastic, trace sand
2.5	24-50/6" 9"	- as above, dark yellowish orange, stiff, increasing sand to 20-30%
40	15-20-29 18"	- as above, grayish brown mottled with orange, decreasing sand to trace
Error in auger count, samples off 5 ft		
0	16-20-28 15"	Clayey SAND (SC), very fine to medium grained, dark yellowish orange with dark orange mottling, stiff, 30-40% clay with some silty clay lenses
0	15-50/6" 12"	SAND (SP), very fine to medium grained, trace coarse grained, light brown with dark orange mottling, very dense, moist
0	30-50/6" 12"	- as above, light olive gray
7	15-24-29 14"	Clayey SILT (ML), light brown with dark orange mottling, stiff, moist, 20-30% very fine grained sand

Interval Sampled
Sample Retained

TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

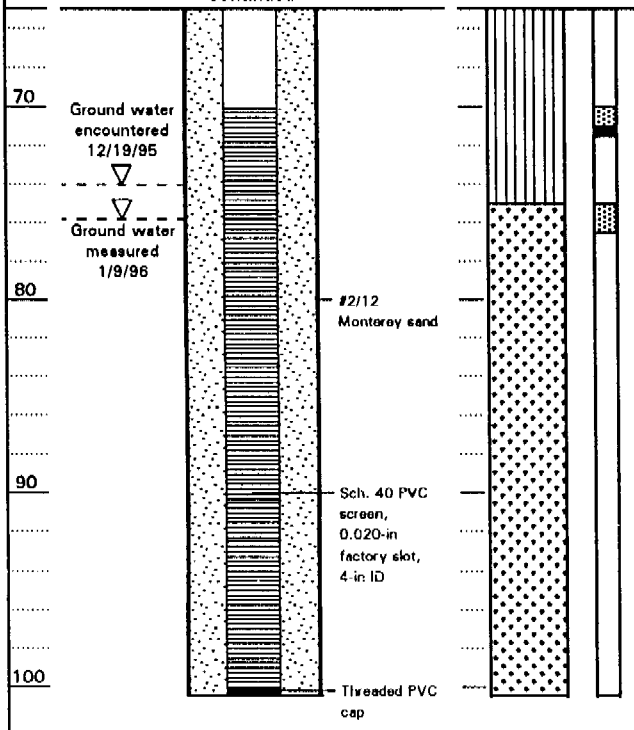
Well Log

Well: **MW-603**

Client:

Powerine Oil Company, Santa Fe Springs

CONSTRUCTION	SAMPLING DATA		LITHOLOGY
Depth, feet	TOV Values (ppmv)	Blow Count Recovery	Visual Description
Continued			
70			70
Ground water encountered 12/19/95	0	15-20-29 18"	- as above, dark bluish gray, firm, slightly plastic
Ground water measured 1/9/96	2	42-40-50 18"	SAND (SW), very fine to coarse grained, light brown, very dense, wet, subrounded, slightly cohesive, trace clay, trace subrounded gravel to 1" dia
80			80
#2/12 Monterey sand			
90			90
Sch. 40 PVC screen, 0.020-in factory slot, 4-in ID			
100			100
Threaded PVC cap			



Interval Sampled
Sample Retained

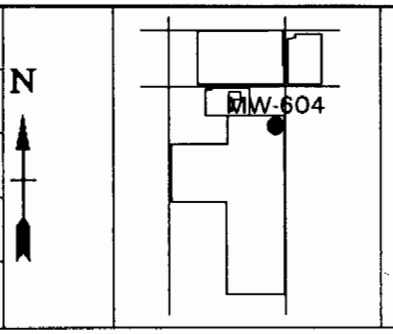
TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

Well Log

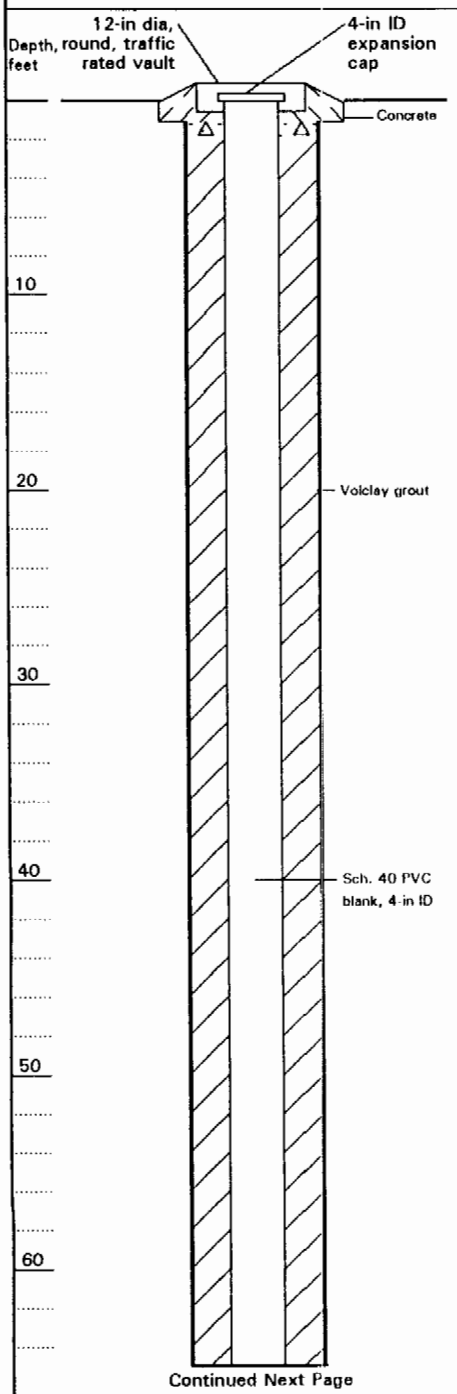
Well: **MW-604**

Client: **Powerine Oil Company, Santa Fe Springs**

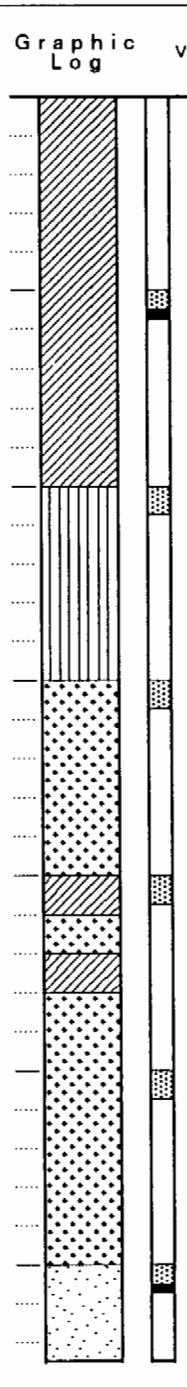
Date Started:	Date Completed:	Permit Number:
DEC 18 95	**DEC 18 95**	
Logged By:	Driller:	1/4, 1/4, S, T, R:
E. Hill	**Arturo Carrera**	
Drilling Co.:	Drilling Rig:	Borehole Diameter:
Layne Environmental Ser	**CME-95**	**12"**
Method:	Measuring Point Elev. (ft.-msl):	Sample Type:
Hollow-Stem Auger	**138.16**	**Mod Cal split spoon**
Total Depth (ft):	Ground Surface Elev. (ft.-msl):	Location:
105	**137.1**	**Metr. State Hosp, Governor's mansion driveway**



CONSTRUCTION



SAMPLING DATA / LITHOLOGY



Depth, feet	TOV Values (ppmv)	Blow Count Recovery	Visual Description
			Silty CLAY (CL), dark yellowish orange, firm, moist, moderately plastic
10	0	20-50/6" 8"	- as above, greenish gray with heavy dark orange mottling, very stiff, damp
20	0	29-50/5" 12"	SILT and SAND (ML), fine grained sand, light yellowish orange with dark orange streaks, very dense, moist, slightly plastic
30	0	30-50/6" 7"	SAND (SW), very fine to very coarse grained, light brown, very dense, moist, 20% gravel to 1/4" dia
40	0	7-12-20 8"	- as above, with lenses of silty CLAY (CL), olive gray, soft to firm, very moist
50	15	19-20-25 12"	SAND (SW), very fine to very coarse grained, olive gray with orange streaks, dense, moist, subrounded, 20-30% gravel to 1" dia
60	41	20-32-40 18"	SAND (SP), fine to medium grained, medium gray, dense, moist

TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

Well Log

Client:

Powerine Oil Company, Santa Fe Springs

CONSTRUCTION		SAMPLING DATA			LITHOLOGY
Depth, feet		Graphic Log	TOV Values (ppmv)	Blow Count Recovery	Visual Description
	Continued				
70	Bentonite pellets		23	20-30-35 18"	SILT and CLAY (ML-CL), greenish gray, firm, moist
80	#2/12 Monterey sand		64	40-50/6" 12"	SAND (SP), fine to medium grained, olive gray, very dense, moist
	Ground water encountered 12/18/95				
90	Sch. 40 PVC screen, 0.020-in factory slot, 4-in ID Ground water measured 1/9/96		130	NA 6"	SAND (SW), very fine to very coarse grained, medium gray, wet, gravel to 1" dia
100	Threaded PVC cap				

Interval Sampled
Sample Retained

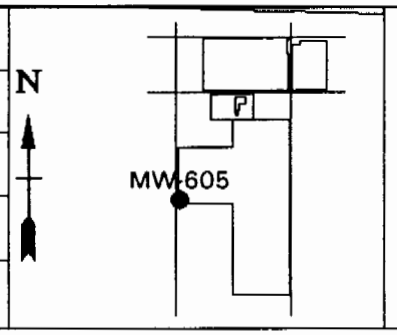
TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

Well Log

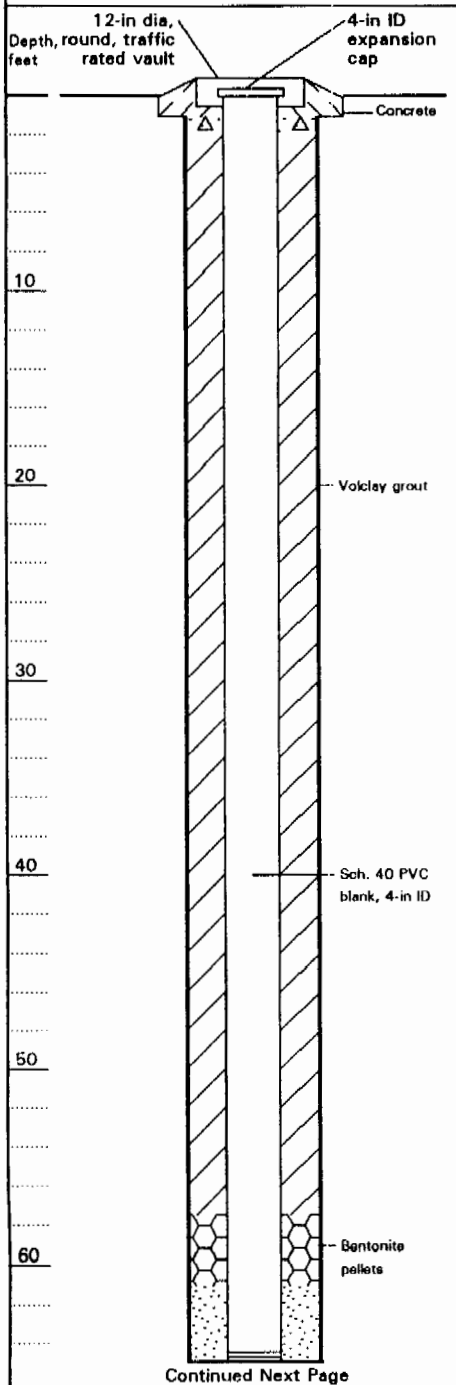
Well: **MW-605**

Client: **Powerine Oil Company, Santa Fe Springs**

Date Started:	Date Completed:	Permit Number:
DEC 15 95	**DEC 15 95**	
Logged By:	Driller:	1/4, 1/4, S, T, R:
E. Hill	**Arturo Carrera**	
Drilling Co.:	Drilling Rig:	Borehole Diameter:
Layne Environmental Ser	**CME-95**	**12"**
Method:	Measuring Point Elev. (ft.-msl):	Sample Type:
Hollow-Stem Auger	**114.54**	**Mod Cal split spoon**
Total Depth (ft):	Ground Surface Elev. (ft.-msl):	Location:
95	**115.1**	**Metr. State Hosp, pkg lot at 5th and Norwalk**



CONSTRUCTION



SAMPLING DATA / LITHOLOGY

Depth, feet	Graphic Log	TOV Values (ppmv)	Blow Count Recovery	Visual Description
10		>2000	8-12-16 12"	Silty CLAY (CL), yellowish brown, moist, moderately plastic, few caliche spots, no detectable odor
20		1700	14-22-25 12"	SAND (SP), very fine to fine grained, trace coarse grained, yellowish orange, very dense, moist, still no odor
30		1500	19-27-32 10"	- as above, grading to:
40		>2000	15-28-34 18"	SAND (SW), very fine to very coarse grained, light yellowish brown, very dense, moist, 20-30% gravel to 1/2" dia
50		1100	20-30-40 18"	- as above, <10% gravel - minor perched water between 50 ft and 60 ft
60		>2000	12-17-25 18"	Silty CLAY (CL), light olive gray with dark orange streaks, stiff, moist, moderately plastic, micaceous, few caliche streaks

Interval Sampled
Sample Retained

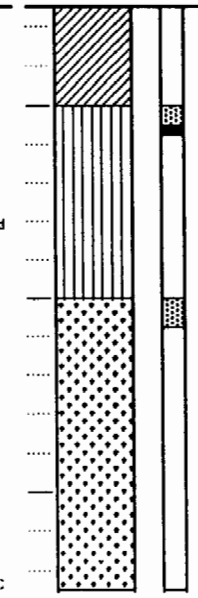
TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

Well Log

Client:

Powerine Oil Company, Santa Fe Springs

CONSTRUCTION	SAMPLING DATA		LITHOLOGY
Depth, feet	TOV Values (ppmv)	Blow Count Recovery	Visual Description
Continued			
70	0	16-26-29 14"	Silty SAND (ML), very fine grained, olive gray with orange mottling, very moist
Ground water encountered 12/15/95 Ground water measured 1/8/96			
#2/12 Monterey sand			
80	0	11-20-22 18"	SAND (SW), very fine to coarse grained, grayish brown, dense, wet
Sch. 40 PVC screen, 0.020-in factory slot, 4-in ID			
90			
Threaded PVC cap			High TOV values may be due to sample humidity



Interval Sampled
Sample Retained

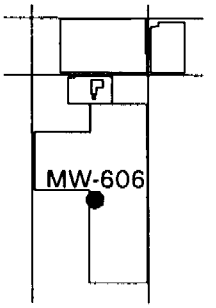
TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

Well Log

Well: **MW-606**

Client: **Powerine Oil Company, Santa Fe Springs**

Date Started:	Date Completed:	Permit Number:
DEC 12 95	**DEC 13 95**	
Logged By:	Driller:	1/4, 1/4, S, T, R:
E. Hill	**Arturo Carrera**	
Drilling Co.:	Drilling Rig:	Borehole Diameter:
Layne Environmental Ser	**CME-95**	**12"**
Method:	Measuring Point Elev. (ft.-msl):	Sample Type:
Hollow-Stem Auger	**113.89**	**Mod Cal split spoon**
Total Depth (ft):	Ground Surface Elev. (ft.-msl):	Location:
100	**114.4**	**Metr. State Hosp, pkg area at 6th and Balsam**



CONSTRUCTION	SAMPLING DATA			LITHOLOGY
Depth, feet	Graphic Log	TOV Values (ppmv)	Blow Count Recovery	Visual Description
				Silty CLAY (CL), reddish brown, firm, moist, moderately plastic, trace fine to medium grained sand
				SILT and CLAY (ML-CL), light olive brown, damp, friable, trace very fine to fine grained sand
10		0	8-8-9 18"	Sandy SILT (ML), very fine to fine grained sand, light olive brown, loose, damp, trace angular gravel to 1/4" dia
		0	11-13-19 18"	SAND (SP), fine to medium grained, light brown, dense, moist, subrounded, well sorted
				Clayey SILT (ML), light olive brown, hard, damp
20		0	7-8-14 18"	SAND (SP), fine to medium grained, light brown, moist, subrounded, interbedded with Silty CLAY (CL), olive brown with dark brown streaks, stiff, moist
		0	10-17-20 18"	Clayey SILT (ML), olive gray with orange mottling, firm, moist, low plasticity
				SAND (SW), very fine to very coarse grained, dense, moist, 10-20% gravel to 1/2" dia
30		0	10-17-22 18"	- as above, grayish brown
40		0	5-6-7 18"	Silty CLAY (CL), olive gray, soft, moist to wet, heavy light gray caliche mottling, 20-30% angular gravel to 1.5" dia, possibly decomposing limestone
50		0	9-13-21 18"	Clayey SILT (ML), gray with orange mottling, firm, moist, low plasticity, trace very fine grained sand
60		0	11-13-10 18"	SAND (SP), medium to coarse grained, light brown, medium dense, moist to wet
				Silty CLAY (CL), reddish brown with dark orange brown mottling, firm, moist

12-in dia, round, traffic rated vault

4-in ID expansion cap

Concrete

Volclay grout

Sch. 40 PVC blank, 4-in ID

Continued Next Page

Interval Sampled
Sample Retained

TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

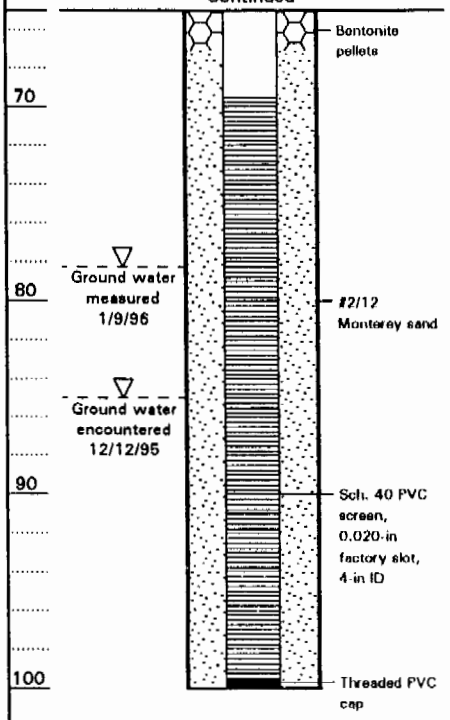
Well Log

Well: **MW-606**

Client:

Powerine Oil Company, Santa Fe Springs

CONSTRUCTION	SAMPLING DATA		LITHOLOGY
Depth, feet	TOV Values (ppmv)	Blow Count Recovery	Visual Description
Continued			
70	0	6-9-12 18"	- as above, trace sand and gravel to 1/2" dia
80	0	10-14-20 18"	Sandy, clayey SILT (ML), orange brown, stiff, moist to wet, low plasticity
90			SAND (SW), very fine to very coarse grained, brown, very dense, very wet, subangular, trace gravel to 1/4" dia
	0	10-17-25 18"	- as above
100			



Interval Sampled
Sample Retained

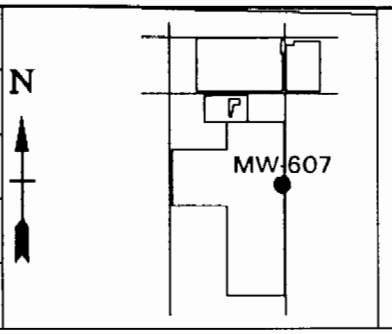
TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

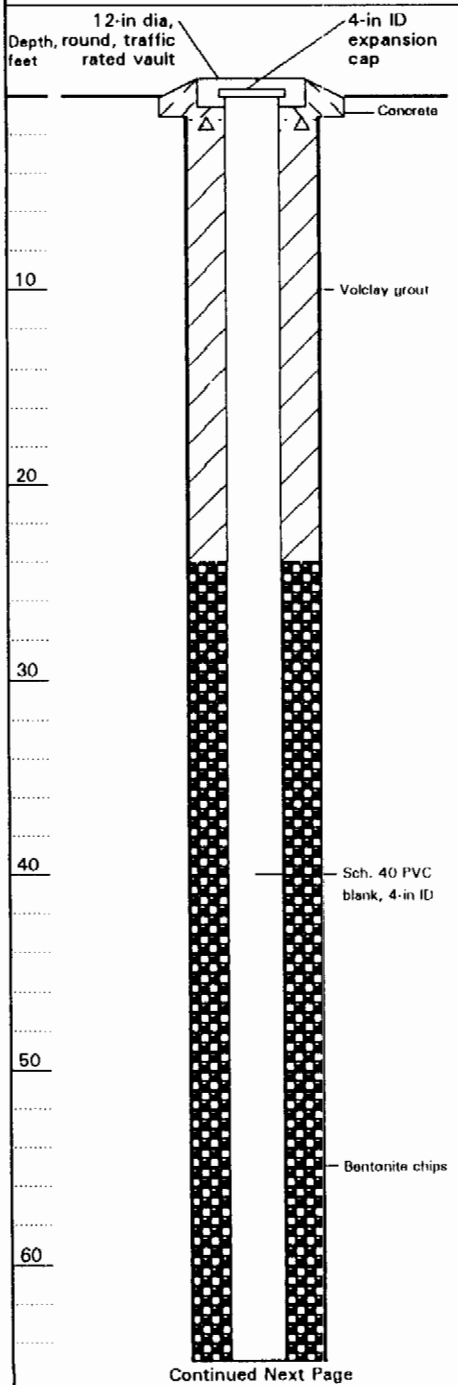
Well Log

Well: **MW-607**

Client: **Powerine Oil Company, Santa Fe Springs**

Date Started:	Date Completed:	Permit Number:
DEC 14 95	**DEC 14 95**	
Logged By:	Driller:	1/4, 1/4, S, T, R:
E. Hill	**Arturo Carrera**	
Drilling Co.:	Drilling Rig:	Borehole Diameter:
Layne Environmental Ser	**CME-95**	**12"**
Method:	Measuring Point Elev. (ft.-msl):	Sample Type:
Hollow-Stem Auger	**126.03**	**Mod Cal split spoon**
Total Depth (ft):	Ground Surface Elev. (ft.-msl):	Location:
108	**126.6**	**Metr. State Hosp, S. Circle Dr. at Bloomfield Ave.**





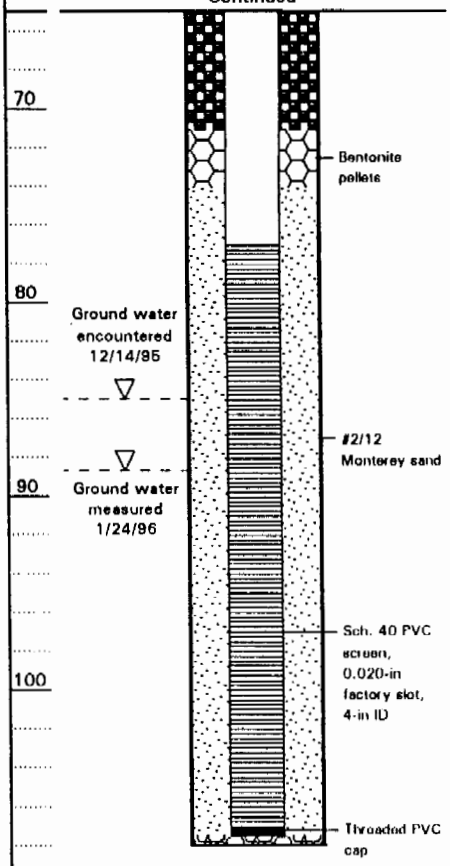
TriHydro Corporation
920 Sheridan Street
Laramie, Wyoming 82070
(307) 745-7474

Well Log

Client:

Powerine Oil Company, Santa Fe Springs

CONSTRUCTION	SAMPLING DATA			LITHOLOGY
Depth, feet	Graphic Log	TOV Values (ppmv)	Blow Count Recovery	Visual Description
Continued				
70		4.2	14-27-26 18"	- as above, fine to medium grained (SP), no gravel SILT (ML), grayish brown with orange mottling, firm, moist, slightly plastic, trace clay
80		12	10-24-35 18"	- as above, gray, no mottling, caliche in lenses SAND (SP), fine to medium grained, gray, very dense, moist, trace coarse sand
90		26	7-18-32 18"	SILT (ML), bluish gray, stiff, wet, slightly plastic, trace clay
100		1000	7-22-26 4"	SAND (SW), very fine to very coarse grained, gray, very dense, wet, subangular



Interval Sampled
Sample Retained

Project # 63-01

FIELD RECORD
GROUND-WATER SAMPLING

1. Well: MW-105

2. Date of fluid level measurement: 1/9/96

3. Total Depth 105 ft. Well Diameter 4 in.

   Depth to Hydrocarbon 0 ft. Gallons/ft. _____ gal.

   Depth to Water 74.65 ft. Gallons/ Casing Volume _____ gal.

   Water Column _____ ft. Total Purge Volume 66 gal.

4. Date and time of sample collection: 1/10/96 2:35 pm

5. Comments regarding physical character of ground water:

   light tan in color, moderate turbidity, small amount of silt on the bottom (tan), no sheen, no product, slight odor.

6. Field Parameters:

   Temperature: 27° C pH 6.78 SC Field 2300 SC @25 c 2397

7. Water phase, number of containers: 1

   Hydrocarbon phase, number of containers: 0

8. Other comments affecting monitoring:

9. Field Personnel: B. McCleod, D. Halladay

Project # 63.01

FIELD RECORD
GROUND-WATER SAMPLING

1. Well: MW-10L

2. Date of fluid level measurement: 1/9/96

3. Total Depth 105 ft. Well Diameter 4 in.

   Depth to Hydrocarbon 0 ft. Gallons/ft. _____ gal.

   Depth to Water 82.75 ft. Gallons/ Casing Volume _____ gal.

   Water Column _____ ft. Total Purge Volume 44.0 gal. (55 gal)

4. Date and time of sample collection: 1/10/96 2:15 pm

5. Comments regarding physical character of ground water:

   Grey water, High turbidity, no sheen, no silt or sand
   no product

6. Field Parameters:

   Temperature: 25°C pH 6.95 SC Field 2200 SC @25 c 2200

7. Water phase, number of containers: 1

   Hydrocarbon phase, number of containers: 0

8. Other comments affecting monitoring:

9. Field Personnel: B. McCleod & D. Holladay

Project # 63-01

FIELD RECORD
GROUND-WATER SAMPLING

1. Well: MW-107

2. Date of fluid level measurement: 1/9/96

3. Total Depth 105 ft. Well Diameter 4 in.

   Depth to Hydrocarbon 0 ft. Gallons/ft. _____ gal.

   Depth to Water 91.18 ft. Gallons/ Casing Volume _____ gal.

   Water Column _____ ft. Total Purge Volume 27.0 gal. (55 gal)

4. Date and time of sample collection: 1/10/96 2:00pm

5. Comments regarding physical character of ground water:

   slight odor, water is grey in color, hi turbidity, cloudy with grey silt at the bottom

6. Field Parameters:

   Temperature: 26°C pH 6.97 SC Field 2600 SC @25 c 2655

7. Water phase, number of containers: 1

   Hydrocarbon phase, number of containers: 0

8. Other comments affecting monitoring:

   MW-108 = Equipment blank 1:30pm 1/10/96

9. Field Personnel: B. McLeod & D. Holladay

Project # 603-01

FIELD RECORD
GROUND-WATER SAMPLING

1. Well: MW-603

2. Date of fluid level measurement: 1/9/96

3. Total Depth 100 ft. Well Diameter 4 in.

   Depth to Hydrocarbon 0 ft. Gallons/ft. _____ gal.

   Depth to Water 75.8 ft. Gallons/ Casing Volume _____ gal.

   Water Column _____ ft. Total Purge Volume 48 gal.

4. Date and time of sample collection: 1/10/96 11:40 AM

5. Comments regarding physical character of ground water:

   tan colored water, high turbidity, no sheen, no silt
   no odor

6. Field Parameters:

   Temperature: 22°C. pH 6.72 SC Field 1900 SC @25 c 1780

7. Water phase, number of containers: 1

   Hydrocarbon phase, number of containers: 0

8. Other comments affecting monitoring:

9. Field Personnel: B. McLeod & D. Holladay

Project # 63-01

FIELD RECORD
GROUND-WATER SAMPLING

1. Well: MW-604

2. Date of fluid level measurement: 1/9/96

3. Total Depth 104 ft. Well Diameter 4 in.

   Depth to Hydrocarbon 0 ft. Gallons/ft. _____ gal.

   Depth to Water 91 ft. Gallons/ Casing Volume _____ gal.

   Water Column _____ ft. Total Purge Volume 26 gal. (30 gal)

4. Date and time of sample collection: 1/10/96 11:10

5. Comments regarding physical character of ground water:

   odor, Green/Grey water, high turbidity, Green/Grey silt on bottom, cloudy

6. Field Parameters:

   Temperature: 19°C pH 6.82 SC Field 1300 SC @25 c 1136

7. Water phase, number of containers: 1

   Hydrocarbon phase, number of containers: 0

8. Other comments affecting monitoring:

9. Field Personnel: B. McLeod, D. Holladay

Project # 163-01

FIELD RECORD
GROUND-WATER SAMPLING

1. Well: MW-05

2. Date of fluid level measurement: 1/8/96

3. Total Depth 100 ft. Well Diameter _____ in.

   Depth to Hydrocarbon 0 ft. Gallons/ft. _____ gal.

   Depth to Water 75.06 ft. Gallons/ Casing Volume _____ gal.

   Water Column _____ ft. Total Purge Volume 49.0 gal. (80 gal)

4. Date and time of sample collection: 1/10/96 10:10

5. Comments regarding physical character of ground water:

   Tan water, brown silt at the bottom, High conductivity, no sheen or product.

6. Field Parameters:

   Temperature: 20°C pH 7.02 SC Field 1900 SC @25 c 1701

7. Water phase, number of containers: 1

   Hydrocarbon phase, number of containers: 0

8. Other comments affecting monitoring:

9. Field Personnel: B. McCleod & D. Holladay

Project # 63-01

FIELD RECORD
GROUND-WATER SAMPLING

1. Well: MW-100c

2. Date of fluid level measurement: 1/9/96

3. Total Depth 100 ft. Well Diameter _____ in.

   Depth to Hydrocarbon 0 ft. Gallons/ft. _____ gal.

   Depth to Water 78.24 ft. Gallons/ Casing Volume _____ gal.

   Water Column _____ ft. Total Purge Volume 43.0 gal. (55 gal)

4. Date and time of sample collection: 1/10/96 10:33

5. Comments regarding physical character of ground water:

   light tan in color, brown silt at the bottom, no product or sheen, high turbidity

6. Field Parameters:

   Temperature: 19°C pH 7.27 SC Field 1400 SC @25 c 1224

7. Water phase, number of containers: 1

   Hydrocarbon phase, number of containers: 0

8. Other comments affecting monitoring:

9. Field Personnel: B. McLeod & D. Holladay

Project # 63-01

FIELD RECORD
GROUND-WATER SAMPLING

1. Well: MW-607

2. Date of fluid level measurement: 1/9/96

3. Total Depth 100 ft. Well Diameter 4 in.

   Depth to Hydrocarbon 0 ft. Gallons/ft. _____ gal.

   Depth to Water 68.6* ft. (see comments) Gallons/ Casing Volume _____ gal.

   Water Column _____ ft. Total Purge Volume 62.0 gal.

4. Date and time of sample collection: 1/10/96 10:50

5. Comments regarding physical character of ground water:

   Grey water, odor, cloudy, High turbidity, grey/black silt at the bottom.

6. Field Parameters:

   Temperature: 19°C pH 6.95 SC Field 2100 SC @25 c 1835

7. Water phase, number of containers: 1

   Hydrocarbon phase, number of containers: 0

8. Other comments affecting monitoring:

   * regauged 1-24-96: DTW=88.62

9. Field Personnel: B. McLeod & D. Holladay

APPENDIX C

LABORATORY REPORTS

APPENDIX C-1 CHAIN-OF-CUSTODY FORMS

APPENDIX C-2 ORGANIC COMPOUNDS IN SOIL

APPENDIX C-3 LEAD IN SOIL

APPENDIX C-4 ORGANIC COMPOUNDS IN GROUNDWATER

APPENDIX C-5 LEAD IN GROUNDWATER

JONES
ENVIROMENTAL
TESTING LABORATORIES

P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: Miller Brooks
Project Name: Downing
Project Address: 12359 Lakeland, Santa Fe Springs
Project Contact: Jon Perkins

Date: 12-13-95
Client Project #: 187-0001

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☒ Normal
- ☐ Mobile Lab

JEL Project #: A2438
Page: 1 of 2

Lab Use Only
Sample Condition as Received:
Chilled ☑ yes ☐ no
Sealed ☐ yes ☐ no

Analysis Requested: 8021 (8010/8020)

	Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	8021 (8010/8020)	Number of Containers	Container/Comments
1	MW104		12-13-95	0740	A2438-001	A	X	4	
2	MW205			0820	-002	A	X	4	
3	MW203			0910	-003	A	X	4	
4	MW101			0940	-004	A	X	4	
5	MW202			1017	-005	A	X	4	
6	MW503			1050	-006	A	X	4	
7	MW201			1125	-007	A	X	4	
8	MW103			1207	-008	A	X	4	
9	MW501			1350	-009	A	X	4	
10	MW206			1490	-010	A	X	4	

❶ Relinquished by (signature)	Date 12-13-95	❷ Received by (signature)	Date 12/13/95		Total Number of Containers
Company Miller Brooks	Time 6:45	Company JEL	Time 6:45	Additional Comments	
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date		
Company	Time	Company	Time		

JONES
ENVIROMENTAL
TESTING LABORATORIES

P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: Miller Brooks
Project Name: Pennant
Project Address: 12354 Lakeland
Santa Fe Springs
Project Contact: Jon Rubio

Date: 12-13-95
Client Project #:

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☒ Normal
- ☐ Mobile Lab

JEL Project #: A2438
Page 2 of 2

Lab Use Only
Sample Condition as Received:
Chilled ☑ yes ☐ no
Sealed ☐ yes ☑ no

Analysis Requested: 8021 (8010/8020)

Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)		Number of Containers	Container/Comments
MW204		12-13-95	1518	A2438-011	A	X	4	
EQUIPBLK			1520	-012	A	X	~~3~~	
MW504			1545	-013	A	X	4	
MW502			1605	-014	A	X	4	
MW600			1705	-015	A	X	4	
MW601			1745	-016	A	X	4	
TB			—	-017	A	X	2	

❶ Relinquished by (signature)	Date 12-13-95	❷ Received by (signature)	Date 12/13/95		Total Number of Containers
Company Miller Brooks	Time 6:45	Company JEL	Time 6:45	Additional Comments	
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date		
Company	Time	Company	Time		

GTEL ENVIRONMENTAL LABORATORIES, INC

4211 MAY AVE.
WICHITA, KS 67209
(316) 945-2624
(800) 633-7936

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

34269 A2439

Company Name: TriHydro Corp
Phone #: 307-745-7474
FAX #: 307-745-7729

Company Address: 920 Sheridan St., Laramie WY 82070
Site location: Powerine

Project Manager: Nora Hill
Client Project ID: (#) 63-01
(NAME) Powerine EOD

I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Eleanor Hill

Field Sample ID	GTEL Lab # (Lab use only)	# Containers	Matrix: WATER	SOIL	AIR	SLUDGE	PRODUCT	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	UNPRESERVED	OTHER (SPECIFY)	Sampling: DATE	TIME	BTEX/602 ☐ 8020 ☐ with MTBE ☐	BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐	Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen X (Mod 8015)	Hydrocarbon Profile (SIMDIS) ☐	Oil and Grease 413.1 ☐ 413.2 ☐ SM 503 ☐	TPH/IR 418.1 ☐ SM 503 ☐	EDB by 504 ☐ DBCP by 504 ☐	EPA 503.1 ☐ EPA 502.2 ☐	EPA 601 ☐ EPA 8010 ☐	EPA 602 ☐ EPA 8020 ☐	EPA 608 ☐ 8080 ☐ PCB only ☐	EPA 824/PPL ☐ 8240/TAL ☐ NBS (+15) ☐	EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐	EPA 610 ☐ 8310 ☐	EP TOX Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐	EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐	CAM Metals TTLC ☐ STLC ☐	Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐	Organic Lead ☐	Corrosivity ☐ Flash Point ☐ Reactivity ☐		
MW-606 10 ft	A2439-001	1		X								X			12-12-95	1310			X																X Lead 6020	X VOCs 8021
MW-606 50 ft	-002	1		X								X			12-12-95	1426			X																	X	X
MW-606 80 ft	-003	1		X								X			12-12-95	1505			X																	X	X
MW-607 10 ft	-004	1		X								X			12-14-95	0821			X																	X	X
MW-607 70 ft	-005	1		X								X			12-14-95	0930			X																	X	X
MW-607 80 ft	-006	1		X								X			12-14-95	0950			X																	X	X

TAT
- Priority (24 hr) ☐
- Expedited (48 hr) ☐
- 7 Business Days ☐
- Other 2 WKS
- Business Days ☐

Special Handling
- GTEL Contact
- Quote/Contract #
- Confirmation #
- PO # Bill to Powerine

QA / QC LEVEL
BLUE ☐ CLP ☐ OTHER

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS
FAX ☐

REMARKS

Lab Use Only Lot # Storage Location:

Work Order #

CUSTODY RECORD

	Date	Time	
Relinquished by Sampler:	12-14-95	1107	Received by:
Relinquished by:			Received by:
Relinquished by:			Received by Laboratory:

12-14-95 1107

JONES
ENVIROMENTAL
TESTING LABORATORIES

P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: Trilhydro Corp
Project Name: Powerine EOD
Project Address: Santa fe Springs
Project Contact: Nora Hill, Matt Winefield

Date: 12-18-95
Client Project #: 63-01

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☒ Normal
- ☐ Mobile Lab

JEL Project #: A2445
Page: 1 of 2

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☐ no
Sealed ☐ yes ☐ no

Analysis Requested

Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	TPH 5 screen	VOCs 8021 Mod	Lead 6020						Number of Containers	Container/Comments
	MW-605 10 ft	12-15-95	0950	A2445-1	S	X	X	X						1	
	MW-605 60 ft	12-15-95	1045	A2445-2	S	X	X	X						1	
	MW-605 70 ft	12-15-95	1102	A2445-3	S	X	X	X						1	
	MW-107 10 ft	12-15-95	1613	A2445-4	S	X	X	X						1	
	MW-107 30 ft	12-15-95	1628	A2445-5	S	X	X	X						1	
	MW-107 70 ft	12-16-95	0730	A2445-6	S	X	X	X						1	
	MW-106 10 ft	12-16-95	1400	A2445-7	S	X	X	X						1	
	MW-106 60 ft	12-16-95	1458	A2445-8	S	X	X	X						1	
	MW-106 80 ft	12-17-95	0755	A2445-9	S	X	X	X						1	
	MW-105 10 ft	12-17-95	1230	A2445-10	S	X	X	X						1	

❶ Relinquished by (signature): Nora M. Hill
Company: Trilhydro
Date: 12-18-95
Time: 0800

❷ Received by (signature):
Company:
Date: 12/18/95
Time: 0900

Total Number of Containers: 10

❸ Relinquished by (signature):
Company:
Date:
Time:

❹ Received by Laboratory (signature):
Company:
Date:
Time:

Additional Comments:

JONES ENVIROMENTAL
TESTING LABORATORIES

P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: Trihydro Corp
Project Name: Powerine EOI)
Project Address: Santa Fe Springs
Project Contact: Nora Hill, Matt Winefield

Date: 12-18-95
Client Project #: 6301
Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☒ Normal
- ☐ Mobile Lab

JEL Project #: A2445
Page: 2 of 2
Lab Use Only
Sample Condition as Received:
Chilled ☒ yes ☐ no
Sealed ☐ yes ☒ no

Analysis Requested

Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	TPH screen Mod 8015	VOCs 8021	Lead 6020						Number of Containers	Container/Comments
	MW-105 60 ft	12-17-95	1350	A2445-11	S	X	X	X						1	
	MW-105 70 ft	12-17-95	1405	A2445-12	S	X	X	X						1	

1. Relinquished by (signature): M. Hill
Company: Trihydro
Date: 12-18-95
Time: 0800

2. Received by (signature): JEL
Company:
Date: 12/18/95
Time: 0900

3. Relinquished by (signature):
Company:
Date:
Time:

4. Received by Laboratory (signature):
Company:
Date:
Time:

Total Number of Containers: 2

Additional Comments:

JONES
ENVIROMENTAL
TESTING LABORATORIES

P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: Trihydro
Project Name: Powerine EOD
Project Address: Santa fe Springs
Project Contact: Nora Hill, Matt Winefield

Date: 12-18-95
Client Project #: 63-01

Turn Around Requested:
- [x] Immediate Attention
- [ ] Rush 24-48 Hours
- [ ] Rush 72-96 Hours
- [ ] Normal
- [ ] Mobile Lab

JEL Project #: A2446

Page: 1 of 1

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☐ no
Sealed ☐ yes ☐ no

Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	TPH screen mod8015	VOCs 8021	Lead 6020						Number of Containers	Container/Comments
	MW-606	12-18-95	1602	A2446001	A	X	X							4	
	MW-604 10ft	12-18-95	1036	A2446002	S	X	X	X						1	
	MW-604 60ft	12-18-95	1125	A2446-003	S	X	X	X						1	
	MW-604 80ft	12-18-95	1200	A2446004	S	X	X	X						1	
	MW-607	12-18-95	1700	A2446-005	A	X	X							4	

❶ Relinquished by (signature)	Date 12-18-95	❷ Received by (signature)	Date 12-18-95	11	Total Number of Containers
Company Trihydro	Time 1701	Company JEL	Time 1701		Additional Comments
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date		
Company	Time	Company	Time		

JONES
ENVIROMENTAL
TESTING LABORATORIES

P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: TriHydro Corp
Project Name: Powerine EOD
Project Address: Santa fe Springs
Project Contact: Nora Hill, Matt Winefield

Date: 12-19-95
Client Project #: 63-01

Turn Around Requested:
- [X] Immediate Attention
- [ ] Rush 24-48 Hours
- [ ] Rush 72-96 Hours
- [ ] Normal
- [ ] Mobile Lab

JEL Project #: A2450
Page: 1 of 1

Lab Use Only
Sample Condition as Received:
Chilled [ ] yes [ ] no
Sealed [ ] yes [ ] no

Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	Analysis Requested: TPH	VOCs	LEAD 6020					Number of Containers	Container/Comments
MW-605	Powerine / MSH	12-19-95	0940	A2450-001	A	X	X	X					4	no Pb RUSH
MW-604	Powerine / MSH	12-19-95	1230	-002	A	X	X	X					4	no Pb RUSH
MW-106	Powerine / EAST Plant	12-19-95	1535	-003	A	X	X	X					4	no Pb RUSH
MW-603 10ft		12-19-95	0902	-004	S	X	X	X					1	normal T/A
MW-603 20ft		12-19-95	0915	-005	S	X	X	X					1	normal T/A
MW-603 30ft		12-19-95	1120	-006	S	X	X	X					1	normal T/A

❶ Relinquished by (signature)	Date	❷ Received by (signature)	Date	15	Total Number of Containers		
M Hill	12-19-95		12-19-95				
Company: TriHydro Corp	Time: 1602	Company	Time: 1602		Additional Comments		
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date				
Company	Time	Company	Time				

JONES
ENVIROMENTAL
TESTING LABORATORIES

P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: TriHydro Corp
Project Name: Powerine EOD
Project Address: Santa fe Springs
Project Contact: Nora Hill, Matt Winefield

Date: 12/20/95
Client Project #: 63-01

Turn Around Requested:
- [x] Immediate Attention
- [ ] Rush 24-48 Hours
- [ ] Rush 72-96 Hours
- [x] Normal
- [ ] Mobile Lab

JEL Project #: A2452

Page: 1 of 1

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☐ no
Sealed ☐ yes ☐ no

Analysis Requested

Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	TPH Screen Mod 8015	VOCs 8021	VOCs 8020	organic lead	Number of Containers	Container/Comments
MW-603	Powerine / MSit	12/20/95	0855	A2452-001	A	X	X			4	rush
MW-107	Powerine / EAST TANK FARM	12/20/95	1135	A2452-002	A	X	X			4	rush
UST-1A	parking lot USTs *	12-20-95	0740	A2452-003	S	X		X	X	2	normal T/A. Analyze organic lead, hold 8015 & 8020
UST-2A	parking lot USTs	12-20-95	0800	A2452-004	S	X		X	X	2	
MW-105	Powerine / WEST	12-20-95	1350	A2452-005	A	X	X			4	rush
											* one tube is for Pb if you need 2 tubes. Insufficient sample in Pb tube for organics. Too much headspace, other tube is full!

❶ Relinquished by (signature): Karen Snyder	Date: 12/20/95	❷ Received by (signature): Jane Jones	Date:	Total Number of Containers:
Company: TriHydro Corporation	Time: 1510	Company: Jones Environmental	Time: 1530	Additional Comments:
❸ Relinquished by (signature):	Date:	❹ Received by Laboratory (signature):	Date:	
Company:	Time:	Company:	Time:	

CORE LAB

CORE LABORATORIES, INC.

No. 47082

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: TRIHydRO	PROJECT NAME/NUMBER: P-O-C. 63-01
SEND REPORT TO: NORA Hill	BILLING INFORMATION
ADDRESS: 920 SheRidAN ST. LARAMIE, wyoming 82070	BILL TO: PoweRinE oil company ATTN: MATT winefield. ADDRESS: 12354 LAKEIAND RoAd P.O. Box 2068 SANTA FE SPRINGS, CA 90670-3857
PHONE: 307-745-7474	PHONE: 310-944-6111
FAX: 307 745-7729	FAX: 310-944-8522 PO NO.: 63-01

ANALYSIS / METHOD REQUEST: LEAD by EPA Method 6020 Filtered

LAB JOB NO. 960070

	SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	LEAD by EPA Method 6020 Filtered	REMARKS / PRECAUTIONS
1	~~MW 605~~	mw 605	1-10-96	10:10	WATER	PLASTIC	HNO3	1	X	
2		mw 606	1-10-96	10:33	WATER	PLASTIC	HNO3	1	X	
3		mw 607	1-10-96	10:50	WATER	PLASTIC	HNO3	1	X	
4		mw 604	1-10-96	11:10	WATER	PLASTIC	HNO3	1	X	
5		mw 603	1-10-96	11:40	WATER	PLASTIC	HNO3	1	X	
6		mw 108	1-10-96	13:30	WATER	PLASTIC	HNO3	1	X	
7		mw 107	1-10-96	14:00	WATER	PLASTIC	HNO3	1	X	
8		MW 106	1-10-96	14:15	WATER	PLASTIC	HNO3	1	X	
9		mw 105	1-10-96	14:35	WATER	PLASTIC	HNO3	1	X	
10		SAMPLES HAVE BEEN FILTERED								

SAMPLER: David D Holladay SHIPMENT METHOD: AIRBILL NO.:

REQUIRED TURNAROUND:* ☐ SAME DAY ☐ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☒ ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: David D Holladay		SIGNATURE: Gary Seymour	1-11-96	SIGNATURE:	
PRINTED NAME/COMPANY: DAVID D HOLLADAY TRIHYDRO	TIME	PRINTED NAME/COMPANY: Core	TIME 11:35	PRINTED NAME/COMPANY	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: Gary Seymour	1-11-96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: CORE	TIME 10:32	PRINTED NAME/COMPANY	TIME	PRINTED NAME/COMPANY	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

☐ Anaheim, California 1250 E. Gene Autry Way Anaheim, California 92805 (714) 937-1094 (800) 401-2675

☐ Aurora (Denver), Colorado 10703 E. Bethany Drive Aurora, Colorado 80014 (303) 751-1780 (800) 972-2613

☐ Casper, Wyoming 420 West 1st Street Casper, Wyoming 82601 (307) 235-5741 (800) 166-0036

☐ Corpus Christi, Texas 1733 North Padre Island Drive Corpus Christi, Texas 78408 (512) 289-2673 (800) 548-6229

☐ Houston, Texas 8210 Mosley Road Houston, Texas 77075 (713) 943-9776 (800) 334-2673

☐ Lake Charles, Louisiana 3445 Bright Parkway Sulphur, Louisiana 70663 (318) 583-4926 (800) 219-4926

☐ Long Beach, California 3700 Cherry Avenue Long Beach, California 90807 (310) 595-8401 (800) 111-3431

ORIGINAL

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2439
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12-14/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. EPA 8010 - Volatile Halogenated Hydrocarbons
3. ATSM 2887 . - Simulated Distillation
4. Mod 8015 Gasoline - Volatile Hydrocarbons

Approval:

Steve Jones, Ph.D.
Laboratory Manager

Jones
Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2439
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12-14/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (ug/Kg)				Reporting Limits	
Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	(ug/Kg)	Surrogate Recovery %
MW-606-10	ND	ND	ND	ND	5.0	82
MW-606-50	ND	ND	ND	ND	5.0	79
MW-606-80	ND	ND	ND	ND	5.0	83
MW-607-10	ND	ND	ND	ND	5.0	81
MW-607-70	ND	ND	ND	ND	5.0	81
MW-607-80	ND	ND	ND	ND	5.0	89

ND = Not Detected

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2439
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12-14/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: MW-607-80

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	103%	98%	5.0%	65 - 125
o-Xylene	102%	99%	2.9%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2439
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12-14/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Simulated Distillation (Carbon Chain ID)

	Sample ID Concentration (mg/Kg)					
Carbon Chain Range	MW-606-10	MW-606-50	MW-606-80	MW-607-10	MW-607-70	MW-607-80
C8-C9	ND	ND	ND	ND	ND	ND
C10-C11	ND	ND	ND	ND	ND	ND
C12-C13	ND	ND	ND	ND	ND	ND
C14-C15	ND	ND	ND	ND	ND	ND
C16-C17	ND	ND	ND	ND	ND	ND
C18-C19	ND	ND	ND	ND	ND	ND
C20-C23	ND	ND	ND	ND	ND	ND
C24-C27	ND	ND	ND	ND	ND	ND
C28-C31	ND	ND	ND	ND	ND	ND
C32-C35	ND	ND	ND	ND	ND	ND
C36-C39	ND	ND	ND	ND	ND	ND
C40-C43	ND	ND	ND	ND	ND	ND
C44+	ND	ND	ND	ND	ND	ND
Total	ND	ND	ND	ND	ND	ND
Reporting Limits	10	10	10	10	10	10
Surrogate Recovery %	105	78	125	94	83	63

ND = Not Detected

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2439
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12-14/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Simulated Distillation (Carbon Chain ID)

Sample Spiked: MW-607-80

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	109%	102%	6.4%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

Jones
Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2439
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12-14/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8010 - Volatile Halogenated Hydrocarbons

	Sample ID Concentration (ug/Kg)			
Parameter	MW-606-10	MW-606-50	MW-606-80	MW-607-10
Dichlorodifluoromethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethylene	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND
t-1,2-Dichloroethylene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
c-1,2-Dichloroethylene	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
Trichloroethylene	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
c-1,3-Dichloropropylene	ND	ND	ND	ND
t-1,3-Dichloropropylene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
Reporting Limits:	1.0	1.0	1.0	1.0
Surrogate Recovery % #1	83	78	75	68
Surrogate Recovery % #2	81	70	69	60
Surrogate Recovery % #3	88	82	78	73

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2439
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12-14/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8010 - Volatile Halogenated Hydrocarbons

	Sample ID Concentration (ug/Kg)	
Parameter	MW-607-70	MW-607-80
Dichlorodifluoromethane	ND	ND
Chloromethane	ND	ND
Vinyl Chloride	ND	ND
Bromomethane	ND	ND
Chloroethane	ND	ND
Trichlorofluoromethane	ND	ND
1,1-Dichloroethylene	ND	ND
Methylene Chloride	ND	ND
t-1,2-Dichloroethylene	ND	ND
1,1-Dichloroethane	ND	ND
c-1,2-Dichloroethylene	ND	ND
Chloroform	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon Tetrachloride	ND	ND
1,2-Dichloroethane	ND	ND
Trichloroethylene	ND	ND
1,2-Dichloropropane	ND	ND
Bromodichloromethane	ND	ND
c-1,3-Dichloropropylene	ND	ND
t-1,3-Dichloropropylene	ND	ND
1,1,2-Trichloroethane	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Dibromochloromethane	ND	ND
Chlorobenzene	ND	ND
Tetrachloroethylene	ND	ND
Bromoform	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
Reporting Limits:	1.0	1.0
Surrogate Recovery % #1	91	86
Surrogate Recovery % #2	95	84
Surrogate Recovery % #3	94	89

ND = Not Detected

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JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2439
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12-14/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8010 - Volatile Halogenated Hydrocarbons

Sample Spiked: TRIP BLANK

Parameter	MS Recovery	MSD Recovery	RPD	Acceptability Range (%)
1,1-DCE	135%	136%	1.3%	65 - 140
TCE	124%	126%	1.6%	65 - 140
CLBZ	118%	118%	0.3%	65 - 140

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2439
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12-14/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample ID	Concentration (mg/Kg)	Surrogate Recovery %	Reporting Limits (mg/Kg)
MW 606-10	ND	82	1.0
MW 606-50	ND	79	1.0
MW 606-80	ND	83	1.0
MW 607-10	ND	81	1.0
MW 607-70	ND	81	1.0
MW 607-80	ND	89	1.0

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2439
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12-14/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample Spiked: MW 607-80

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Gasoline	117%	116%	1.5%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	12/19/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2445
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Nora Hill	**Date Sampled:**	12/15-17/95
		Date Received:	12/18/95
Project:	Powerine	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. EPA 8010 - Volatile Halogenated Hydrocarbons
3. ATSM 2887 - Simulated Distillation
4. Mod 8015 Gasoline - Volatile Hydrocarbons

Approval:

Steve Jones, Ph.D.
Laboratory Manager

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LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/19/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2445
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Nora Hill	**Date Sampled:**	12/15-17/95
		Date Received:	12/18/95
Project:	Powerine	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (ug/Kg)				Reporting Limits (ug/Kg)	Surrogate Recovery %
Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes		
MW605-10	ND	ND	ND	ND	5.0	104
MW605-60	ND	ND	ND	ND	5.0	93
MW605-70	ND	ND	ND	ND	5.0	95
MW107-10	ND	ND	ND	ND	5.0	94
MW107-30	ND	ND	ND	ND	5.0	93
MW107-70	ND	ND	ND	ND	5.0	94
MW106-10	ND	ND	ND	14	5.0	99
MW106-60	ND	ND	ND	ND	5.0	97
MW106-80	18	19	11	100	5.0	--
MW105-10	ND	5.5	ND	34	5.0	102
MW105-60	ND	ND	ND	17	5.0	100
MW105-70	ND	ND	ND	22	5.0	100

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/19/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2445
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Nora Hill	**Date Sampled:**	12/15-17/95
		Date Received:	12/18/95
Project:	Powerine	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: MW107-70

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	95%	96%	1.3%	65 - 125
o-Xylene	99%	102%	3.0%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/19/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2445
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Nora Hill	**Date Sampled:**	12/15-17/95
		Date Received:	12/18/95
Project:	Powerine	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Simulated Distillation (Carbon Chain ID)

	Sample ID Concentration (mg/Kg)					
Carbon Chain Range	MW105-10	MW105-60	MW105-70	MW106-10	MW106-60	MW106-80
C8-C9	ND	ND	ND	ND	ND	ND
C10-C11	ND	ND	ND	ND	ND	ND
C12-C13	ND	ND	ND	ND	ND	ND
C14-C15	ND	ND	ND	ND	ND	ND
C16-C17	ND	ND	ND	ND	ND	ND
C18-C19	ND	ND	ND	ND	ND	ND
C20-C23	ND	ND	ND	ND	ND	ND
C24-C27	ND	ND	ND	ND	ND	ND
C28-C31	ND	ND	ND	ND	ND	ND
C32-C35	ND	ND	ND	ND	ND	ND
C36-C39	ND	ND	ND	ND	ND	ND
C40-C43	ND	ND	ND	ND	ND	ND
C44+	ND	ND	ND	ND	ND	ND
Total	ND	ND	ND	ND	ND	ND
Reporting Limits	10	10	10	10	10	10
Surrogate Recovery %	107	93	93	100	106	117

ND = Not Detected

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LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/19/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2445
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Nora Hill	**Date Sampled:**	12/15-17/95
		Date Received:	12/18/95
Project:	Powerine	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Simulated Distillation (Carbon Chain ID)

	Sample ID Concentration (mg/Kg)		
Carbon Chain Range	MW107-10	MW107-30	MW105-70
C8-C9	ND	ND	ND
C10-C11	ND	ND	ND
C12-C13	ND	ND	ND
C14-C15	ND	ND	ND
C16-C17	ND	ND	ND
C18-C19	ND	ND	ND
C20-C23	ND	ND	ND
C24-C27	ND	ND	ND
C28-C31	ND	ND	ND
C32-C35	ND	ND	ND
C36-C39	ND	ND	ND
C40-C43	ND	ND	ND
C44+	ND	ND	ND
Total	ND	ND	ND
Reporting Limits	10	10	10
Surrogate Recovery %	112	101	105

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/19/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2445
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Nora Hill	**Date Sampled:**	12/15-17/95
		Date Received:	12/18/95
Project:	Powerine	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Simulated Distillation (Carbon Chain ID)

Sample Spiked: MW106-80

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	81%	95%	15.8%	65 - 125

Sample Spiked: MW605-60

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	95%	91%	3.6%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/19/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2445
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Nora Hill	**Date Sampled:**	12/15-17/95
		Date Received:	12/18/95
Project:	Powerine	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8010 - Volatile Halogenated Hydrocarbons

	Sample ID			
	Concentration (ug/Kg)			
Parameter	MW605-10	MW605-60	MW605-70	MW107-10
Dichlorodifluoromethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethylene	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND
t-1,2-Dichloroethylene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
c-1,2-Dichloroethylene	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
Trichloroethylene	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
c-1,3-Dichloropropylene	ND	ND	ND	ND
t-1,3-Dichloropropylene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
Reporting Limits:	1.0	1.0	1.0	1.0
Surrogate Recovery % #1	98	88	101	105
Surrogate Recovery % #2	102	65	103	107
Surrogate Recovery % #3	103	67	116	119

ND = Not Detected

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JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/19/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2445
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Nora Hill	**Date Sampled:**	12/15-17/95
		Date Received:	12/18/95
Project:	Powerine	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8010 - Volatile Halogenated Hydrocarbons

Parameter	Sample ID Concentration (ug/Kg) MW107-30	MW107-70	MW106-10	MW106-60
Dichlorodifluoromethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethylene	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND
t-1,2-Dichloroethylene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
c-1,2-Dichloroethylene	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
Trichloroethylene	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
c-1,3-Dichloropropylene	ND	ND	ND	ND
t-1,3-Dichloropropylene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
Reporting Limits:	1.0	1.0	1.0	1.0
Surrogate Recovery % #1	99	102	100	106
Surrogate Recovery % #2	98	94	105	126
Surrogate Recovery % #3	109	90	101	138

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/19/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2445
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Nora Hill	**Date Sampled:**	12/15-17/95
		Date Received:	12/18/95
Project:	Powerine	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8010 - Volatile Halogenated Hydrocarbons

Parameter	Sample ID Concentration (ug/Kg) MW106-80	MW105-10	MW105-60	MW105-70
Dichlorodifluoromethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethylene	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND
t-1,2-Dichloroethylene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
c-1,2-Dichloroethylene	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
Trichloroethylene	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
c-1,3-Dichloropropylene	ND	ND	ND	ND
t-1,3-Dichloropropylene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
Reporting Limits:	1.0	1.0	1.0	1.0
Surrogate Recovery % #1	89	113	100	125
Surrogate Recovery % #2	86	119	93	147
Surrogate Recovery % #3	119	121	115	138

ND = Not Detected

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TESTING LABORATORIES
JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/19/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2445
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Nora Hill	**Date Sampled:**	12/15-17/95
		Date Received:	12/18/95
Project:	Powerine	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8010 - Volatile Halogenated Hydrocarbons

Sample Spiked: MW605-10

Parameter	MS Recovery	MSD Recovery	RPD	Acceptability Range (%)
1,1-DCE	91%	89%	2.0%	65 - 140
TCE	100%	98%	2.6%	65 - 140
CLBZ	112%	110%	1.4%	65 - 140

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/19/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2445
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Nora Hill	**Date Sampled:**	12/15-17/95
		Date Received:	12/18/95
Project:	Powerine	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample ID	Concentration (mg/Kg)	Surrogate Recovery %	Reporting Limits (mg/Kg)
MW 605-10	ND	104	1.0
MW 605-60	ND	93	1.0
MW 605-70	ND	95	1.0
MW 107-10	ND	94	1.0
MW 107-30	ND	93	1.0
MW 107-70	ND	94	1.0
MW 106-10	ND	99	1.0
MW 106-60	ND	97	1.0
MW 106-80	4.2*	--	1.0
MW 105-10	ND	102	1.0
MW 105-60	ND	100	1.0
MW 105-70	ND	100	1.0

* Hydrocarbons in the gasoline range are not typical of gasoline.

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/19/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2445
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Nora Hill	**Date Sampled:**	12/15-17/95
		Date Received:	12/18/95
Project:	Powerine	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample Spiked: MW 107-70

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Gasoline	103%	106%	2.5%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. EPA 8010 - Volatile Halogenated Hydrocarbons
3. ATSM 2887 - Simulated Distillation
4. Mod 8015 Gasoline - Volatile Hydrocarbons

Approval:

Steve Jones, Ph.D.
Laboratory Manager

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JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (ug/Kg)				Reporting Limits	
Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	(ug/Kg)	Surrogate Recovery %
MW604-10	ND	ND	ND	6.5	5.0	94
MW604-60	ND	ND	ND	14	5.0	94
MW604-80	ND	ND	ND	13	5.0	106

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: TB (A-2445) WATER

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	99%	96%	2.7%	65 - 125
o-Xylene	101%	100%	1.7%	65 - 125

Sample Spiked: MW107-70 (A-2445) SOIL

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	95%	96%	1.3%	65 - 125
o-Xylene	99%	102%	3.0%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES
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LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Simulated Distillation (Carbon Chain ID)

	Sample ID Concentration (mg/Kg)		
Carbon Chain Range	MW 604-10	MW604-60	MW604-80
C8-C9	ND	ND	ND
C10-C11	ND	ND	ND
C12-C13	ND	ND	ND
C14-C15	ND	ND	ND
C16-C17	ND	ND	ND
C18-C19	ND	ND	ND
C20-C23	ND	ND	ND
C24-C27	ND	ND	ND
C28-C31	ND	ND	ND
C32-C35	ND	ND	ND
C36-C39	ND	ND	ND
C40-C43	ND	ND	ND
C44+	ND	ND	ND
Total	ND	ND	ND
Reporting Limits	10	10	10
Surrogate Recovery %	103	111	106

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

Simulated Distillation (Carbon Chain ID)

Sample Spiked: TB (A-2445) WATER

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	83%	104%	18.4%	65 - 125

Sample Spiked: MW605-60 SOIL

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	94%	91%	3.6%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8010 - Volatile Halogenated Hydrocarbons

	Sample ID		
	Concentration (ug/Kg)		
Parameter	MW604-10	MW604-60	MW604-80
Dichlorodifluoromethane	ND	ND	ND
Chloromethane	ND	ND	ND
Vinyl Chloride	ND	ND	ND
Bromomethane	ND	ND	ND
Chloroethane	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND
1,1-Dichloroethylene	ND	ND	ND
Methylene Chloride	ND	ND	ND
t-1,2-Dichloroethylene	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND
c-1,2-Dichloroethylene	ND	ND	ND
Chloroform	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND
Trichloroethylene	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND
Bromodichloromethane	ND	ND	ND
c-1,3-Dichloropropylene	ND	ND	ND
t-1,3-Dichloropropylene	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND
Dibromochloromethane	ND	ND	ND
Chlorobenzene	ND	ND	ND
Tetrachloroethylene	ND	ND	ND
Bromoform	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND
Reporting Limits:	1.0	1.0	1.0
Surrogate Recovery % #1	98	108	103
Surrogate Recovery % #2	105	120	112
Surrogate Recovery % #3	121	128	129

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/ Water

EPA 8010 - Volatile Halogenated Hydrocarbons

Sample Spiked: TB (A-2445) WATER

Parameter	MS Recovery	MSD Recovery	RPD	Acceptability Range (%)
1,1-DCE	89%	91%	2.2%	65 - 140
TCE	98%	101%	2.6%	65 - 140
CLBZ	108%	115%	6.5%	65 - 140

Sample Spiked: MW-605-10 (A-2445) SOIL

Parameter	MS Recovery	MSD Recovery	RPD	Acceptability Range (%)
1,1-DCE	91%	89%	2.0%	65 - 140
TCE	100%	98%	2.6%	65 - 140
CLBZ	112%	110%	1.4%	65 - 140

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample ID	Concentration (mg/Kg)	Surrogate Recovery %	Reporting Limits (mg/Kg)
MW 604-10	ND	94	1.0
MW 604-60	1.3*	94	1.0
MW 604-80	ND	106	1.0

* Hydrocarbons present in the gasoline range are not typical of gasoline.

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/ Water

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

WATER
Sample Spiked: TB

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Gasoline	107%	106%	0.8%	65 - 125

SOIL
Sample Spiked: MW 107-70 (A-2445)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Gasoline	103%	106%	2.5%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. EPA 8010 - Volatile Halogenated Hydrocarbons
3. ATSM 2887 - Simulated Distillation
4. Mod 8015 Gasoline - Volatile Hydrocarbons

Approval:

Steve Jones, Ph.D.
Laboratory Manager

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LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (ug/Kg)				Reporting Limits	
Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	(ug/Kg)	Surrogate Recovery %
MW603-10	ND	ND	ND	ND	5.0	85
MW603-20	ND	ND	ND	ND	5.0	92
MW603-70	ND	ND	ND	ND	5.0	93

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: UST-2A (A2452)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	115%	115%	0.0%	65 - 125
o-Xylene	110%	111%	0.2%	65 - 125

Sample Spiked: CLEAN WATER

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	96%	96%	0.2%	65 - 125
o-Xylene	96%	102%	6.6%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8010 - Volatile Halogenated Hydrocarbons

	Sample ID Concentration (ug/Kg)		
Parameter	MW603-10	MW603-20	MW603-70
Dichlorodifluoromethane	ND	ND	ND
Chloromethane	ND	ND	ND
Vinyl Chloride	ND	ND	ND
Bromomethane	ND	ND	ND
Chloroethane	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND
1,1-Dichloroethylene	ND	ND	ND
Methylene Chloride	ND	ND	ND
t-1,2-Dichloroethylene	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND
c-1,2-Dichloroethylene	ND	ND	ND
Chloroform	ND	ND	ND
1,1,1-Trichloroethane	**0.99**	ND	**1.0**
Carbon Tetrachloride	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND
Trichloroethylene	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND
Bromodichloromethane	ND	ND	ND
c-1,3-Dichloropropylene	ND	ND	ND
t-1,3-Dichloropropylene	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND
Dibromochloromethane	ND	ND	ND
Chlorobenzene	ND	ND	ND
Tetrachloroethylene	ND	ND	ND
Bromoform	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND
Reporting Limits:	1.0	1.0	1.0
Surrogate Recovery % #1	122	140	134
Surrogate Recovery % #2	136	158	157
Surrogate Recovery % #3	114	124	122

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

EPA 8010 - Volatile Halogenated Hydrocarbons

Sample Spiked: MW603-10 (SOIL)

Parameter	MS Recovery	MSD Recovery	RPD	Acceptability Range (%)
1,1-DCE	101%	106%	4.6%	65 - 140
TCE	98%	102%	3.3%	65 - 140
CLBZ	85%	85%	0.68%	65 - 140

Sample Spiked: MW604 (WATER)

Parameter	MS Recovery	MSD Recovery	RPD	Acceptability Range (%)
1,1-DCE	103%	105%	0.4%	65 - 125
TCE	104%	104%	0.36%	65 - 125
CLBZ	95%	96%	1.3%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample ID	Concentration (mg/Kg)	Surrogate Recovery %	Reporting Limits (mg/Kg)
MW 603-10	ND	85	1.0
MW 603-20	ND	92	1.0
MW 603-70	ND	93	1.0

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

SOIL

Sample Spiked: UST-2A (A-2452)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Gasoline	98%	100%	1.2%	65 - 125

WATER

Sample Spiked: Clean Water

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Gasoline	104%	107%	3.6%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES
JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Simulated Distillation (Carbon Chain ID)

	Sample ID Concentration (mg/Kg)		
Carbon Chain Range	MW603-10	MW 603-20	MW 603-70
C8-C9	ND	ND	ND
C10-C11	ND	ND	ND
C12-C13	ND	ND	ND
C14-C15	ND	ND	ND
C16-C17	ND	ND	ND
C18-C19	ND	ND	ND
C20-C23	ND	ND	ND
C24-C27	ND	ND	ND
C28-C31	ND	ND	ND
C32-C35	ND	ND	ND
C36-C39	ND	ND	ND
C40-C43	ND	ND	ND
C44+	ND	ND	ND
Total	ND	ND	ND
Reporting Limits	10	10	10
Surrogate Recovery %	103	107	116

ND = Not Detected

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JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

Simulated Distillation (Carbon Chain ID)

WATER
Sample Spiked: MW 206 (A-2438)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	101%	97%	4.1%	65 - 125

SOIL
Sample Spiked: MW 605-60

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	94%	91%	3.6%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

JONES ENVIRONMENTAL LABORATORIES
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714-449-9937

Date Reported: 12/26/95
Date Received: 12/21/95
Laboratory No.: 95-15115-10

Sample Description: POWERINE/TRIHYDRO JEL PROJ. #A2445: MW-105 10'

Sampling Date/Time: 12/19/95 @ 03:50PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	4.9	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

Dan Schultz
Laboratory Director

BC LABORATORIES

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

JONES ENVIRONMENTAL LABORATORIES
P.O. BOX 5387
FULLERTON, CA 92635
714-449-9937

Date Reported: 12/26/95
Date Received: 12/21/95
Laboratory No.: 95-15115-11

Sample Description: POWERINE/TRIHYDRO JEL PROJ. #A2445: MW-105 60'

Sampling Date/Time: 12/19/95 @ 03:50PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	None Detected	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

Dan Schultz
Laboratory Director

BC LABORATORIES

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

JONES ENVIRONMENTAL LABORATORIES
P.O. BOX 5387
FULLERTON, CA 92635
714-449-9937

Date Reported: 12/26/95
Date Received: 12/21/95
Laboratory No.: 95-15115-12

Sample Description: POWERINE/TRIHYDRO JEL PROJ. #A2445: MW-105 70'

Sampling Date/Time: 12/19/95 @ 03:50PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	None Detected	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

Dan Schultz
Laboratory Director

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TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

JONES ENVIRONMENTAL LABORATORIES
P.O. BOX 5387
FULLERTON, CA 92635
714-449-9937

Date Reported: 12/26/95
Date Received: 12/21/95
Laboratory No.: 95-15115-7

Sample Description: POWERINE/TRIHYDRO JEL PROJ. #A2445: MW-106 10'

Sampling Date/Time: 12/19/95 @ 03:50PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	4.1	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

Dan Schultz
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TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

JONES ENVIRONMENTAL LABORATORIES
P.O. BOX 5387
FULLERTON, CA 92635
714-449-9937

Date Reported: 12/26/95
Date Received: 12/21/95
Laboratory No.: 95-15115-8

Sample Description: POWERINE/TRIHYDRO JEL PROJ. #A2445: MW-106 60'

Sampling Date/Time: 12/19/95 @ 03:50PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	4.9	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

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TOTAL CONCENTRATIONS
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JONES ENVIRONMENTAL LABORATORIES
P.O. BOX 5387
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714-449-9937

Date Reported: 12/26/95
Date Received: 12/21/95
Laboratory No.: 95-15115-9

Sample Description: POWERINE/TRIHYDRO JEL PROJ. #A2445: MW-106 80'

Sampling Date/Time: 12/19/95 @ 03:50PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	None Detected	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

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Date Reported: 12/26/95
Date Received: 12/21/95
Laboratory No.: 95-15115-4

Sample Description: POWERINE/TRIHYDRO JEL PROJ. #A2445: MW-107 10'

Sampling Date/Time: 12/19/95 @ 03:50PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	2.8	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
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P.O. BOX 5387
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714-449-9937

Date Reported: 12/26/95
Date Received: 12/21/95
Laboratory No.: 95-15115-5

Sample Description: POWERINE/TRIHYDRO JEL PROJ. #A2445: MW-107 30'

Sampling Date/Time: 12/19/95 @ 03:50PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	None Detected	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

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P.O. BOX 5387
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Date Reported: 12/26/95
Date Received: 12/21/95
Laboratory No.: 95-15115-6

Sample Description: POWERINE/TRIHYDRO JEL PROJ. #A2445: MW-107 70'

Sampling Date/Time: 12/19/95 @ 03:50PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	None Detected	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
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Date Reported: 12/27/95
Date Received: 12/21/95
Laboratory No.: 95-15175-1

Sample Description: POWERINE: MW603-10

Sampling Date/Time: 12/19/95 @ 09:02AM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	6.7	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

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P.O. BOX 5387
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Date Reported: 12/27/95
Date Received: 12/21/95
Laboratory No.: 95-15175-2

Sample Description: POWERINE: MW603-20

Sampling Date/Time: 12/19/95 @ 09:15AM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	5.5	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

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P.O. BOX 5387
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Date Reported: 12/27/95
Date Received: 12/21/95
Laboratory No.: 95-15175-3

Sample Description: POWERINE: MW603-70

Sampling Date/Time: 12/19/95 @ 11:20AM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	6.2	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

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JONES ENVIRONMENTAL LABORATORIES
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Attn: MATT WINEFIELD 714-449-9937

Date Reported: 01/02/96
Date Received: 12/26/95
Laboratory No.: 95-15272-1

Sample Description: POWERINE SANTE FE SPRINGS JEL PROJ. #A-2446: MW604-10

Sampling Date/Time: 12/18/95 @ 10:36AM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	6.8	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

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Date Reported: 01/02/96
Date Received: 12/26/95
Laboratory No.: 95-15272-2

Sample Description: POWERINE SANTE FE SPRINGS JEL PROJ. #A-2446: MW604-60

Sampling Date/Time: 12/18/95 @ 11:25AM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	2.9	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

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Date Reported: 01/02/96
Date Received: 12/26/95
Laboratory No.: 95-15272-3

Sample Description: POWERINE SANTE FE SPRINGS JEL PROJ. #A-2446: MW604-80

Sampling Date/Time: 12/18/95 @ 12:00PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	None Detected	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
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714-449-9937

Date Reported: 12/26/95
Date Received: 12/21/95
Laboratory No.: 95-15115-1

Sample Description: POWERINE/TRIHYDRO JEL PROJ. #A2445: MW-605 10'

Sampling Date/Time: 12/19/95 @ 03:50PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	6.7	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
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P.O. BOX 5387
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714-449-9937

Date Reported: 12/26/95
Date Received: 12/21/95
Laboratory No.: 95-15115-2

Sample Description: POWERINE/TRIHYDRO JEL PROJ. #A2445: MW-605 60'

Sampling Date/Time: 12/19/95 @ 03:50PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	5.4	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
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P.O. BOX 5387
FULLERTON, CA 92635
714-449-9937

Date Reported: 12/26/95
Date Received: 12/21/95
Laboratory No.: 95-15115-3

Sample Description: POWERINE/TRIHYDRO JEL PROJ. #A2445: MW-605 70'

Sampling Date/Time: 12/19/95 @ 03:50PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	3.6	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
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JONES ENVIRONMENTAL LABORATORIES
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Attn: NOVA HILL 714-449-9937

Date Reported: 12/22/95
Date Received: 12/18/95
Laboratory No.: 95-14976-1

Sample Description: POWERINE JEL PROJ. #A-2439: MW606-10

Sampling Date/Time: 12/12/95

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	2.5	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
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Date Reported: 12/22/95
Date Received: 12/18/95
Laboratory No.: 95-14976-2

Sample Description: POWERINE JEL PROJ. #A-2439: MW606-50

Sampling Date/Time: 12/12/95

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	4.3	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

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Attn: NOVA HILL 714-449-9937

Date Reported: 12/22/95
Date Received: 12/18/95
Laboratory No.: 95-14976-3

Sample Description: POWERINE JEL PROJ. #A-2439: MW606-80

Sampling Date/Time: 12/12/95

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	5.5	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
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Date Reported: 12/22/95
Date Received: 12/18/95
Laboratory No.: 95-14976-4

Sample Description: POWERINE JEL PROJ. #A-2439: MW607-10

Sampling Date/Time: 12/12/95

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	2.8	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
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Attn: NOVA HILL 714-449-9937

Date Reported: 12/22/95
Date Received: 12/18/95
Laboratory No.: 95-14976-5

Sample Description: POWERINE JEL PROJ. #A-2439: MW607-70

Sampling Date/Time: 12/12/95

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	2.8	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
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Date Reported: 12/22/95
Date Received: 12/18/95
Laboratory No.: 95-14976-6

Sample Description: POWERINE JEL PROJ. #A-2439: MW607-80

Sampling Date/Time: 12/12/95

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	2.7	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

Dan Schultz
Laboratory Director

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2438
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. EPA 8010 - Volatile Halogenated Hydrocarbons
3. ASTM 2887 - Simulated Distillation
4. Mod 8015 Gasoline - Volatile Hydrocarbons

Approval:

Steve Jones, Ph.D.
Laboratory Manager

P.O. BOX 5387 • FULLERTON, CA 92635 (714) 449-9937 • FAX (714) 449-9685

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2438
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (ug/L)				Reporting Limits	Surrogate
Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	(ug/L)	Recovery %
MW104	3.0	0.6	ND	ND	0.5	99
MW205	110	1.3	18	37	0.5	123
MW203	37	1.0	12	1.9	0.5	112
MW101	90	5.9	6.4	2.9	1.0	116
MW202	330	21	51	74	2.5	258
MW503	340	79	190	200	2.5	170
MW201	440	42	120	94	2.5	146
MW103	410	4.1	2.6	7.7	2.5	99
MW501	1600	100	880	2200	10	190
MW206	110	16	32	100	15	107
MW204	880	670	240	860	2.5	148
EQUIP BLK	0.6	ND	ND	1.3	0.5	97
MW504	2700	730	800	2600	50	144
MW502	6900	950	3300	8500	50	134
MW600	23000	40000	18000	101000	500	130
MW601	18000	17000	130000	100000	500	163
TB	20	44	18	100	0.5	136
TB #2	ND	ND	ND	ND	0.5	91

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2438
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: MW104

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	104%	121%	14.6%	65 - 125
o-Xylene	75%	107%	35%	65 - 125

Sample Spiked: TB #2

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	99%	96%	2.7%	65 - 125
o-Xylene	101%	100%	1.7%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/15/16
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	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8010 - Volatile Halogenated Hydrocarbons

	Sample ID Concentration (ug/L)			
Parameter	MW104	MW205	MW203	MW101
Dichlorodifluoromethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	**1.4**	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethylene	ND	**22**	ND	**67**
Methylene Chloride	ND	**0.58**	ND	**1.3**
t-1,2-Dichloroethylene	ND	**5.3**	**4.5**	**0.97**
1,1-Dichloroethane	ND	**7.3**	**0.61**	**9.3**
c-1,2-Dichloroethylene	ND	**51**	**40**	**45**
Chloroform	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
1,2-Dichloroethane	ND	**2.0**	ND	**1.8**
Trichloroethylene	ND	**80**	ND	**100**
1,2-Dichloropropane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
c-1,3-Dichloropropylene	ND	ND	ND	ND
t-1,3-Dichloropropylene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Tetrachloroethylene	ND	**2.8**	ND	**36**
Bromoform	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
Reporting Limits:	0.5	0.5	0.5	0.5
Surrogate Recovery % #1	96	98	94	93
Surrogate Recovery % #2	102	87	86	84
Surrogate Recovery % #3	99	96	89	85

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2438
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8010 - Volatile Halogenated Hydrocarbons

	Sample ID Concentration (ug/L)			
Parameter	MW202	MW503	MW201	MW103
Dichlorodifluoromethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	**1.5**	**1.4**	ND	**2.5**
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethylene	**1.3**	**120**	**87**	ND
Methylene Chloride	ND	**1.0**	**0.69**	ND
t-1,2-Dichloroethylene	**1.0**	**1.2**	**1.7**	ND
1,1-Dichloroethane	**1.8**	**15**	**9.4**	**2.2**
c-1,2-Dichloroethylene	**13**	**38**	**44**	ND
Chloroform	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	**1.8**	ND
Carbon Tetrachloride	ND	ND	ND	ND
1,2-Dichloroethane	ND	**6.5**	**4.4**	**2.1**
Trichloroethylene	**1.3**	**85**	**110**	ND
1,2-Dichloropropane	**1.1**	**0.72**	**0.81**	ND
Bromodichloromethane	ND	ND	ND	ND
c-1,3-Dichloropropylene	ND	ND	ND	ND
t-1,3-Dichloropropylene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	**58**	ND
Bromoform	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
Reporting Limits:	0.5	0.5	0.5	0.5
Surrogate Recovery % #1	90	108	112	99
Surrogate Recovery % #2	98	111	116	112
Surrogate Recovery % #3	102	106	107	108

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

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Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8010 - Volatile Halogenated Hydrocarbons

	Sample ID Concentration (ug/L)			
Parameter	MW501	MW206	MW204	EQUIP BLK
Dichlorodifluoromethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	**4.7**	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethylene	**1.0**	ND	ND	ND
Methylene Chloride	**1.0**	ND	ND	ND
t-1,2-Dichloroethylene	ND	ND	ND	ND
1,1-Dichloroethane	**1.6**	ND	**5.4**	ND
c-1,2-Dichloroethylene	**8.5**	ND	**4.7**	ND
Chloroform	ND	ND	ND	ND
1,1,1-Trichloroethane	**3.7**	ND	ND	**0.95**
Carbon Tetrachloride	ND	ND	ND	ND
1,2-Dichloroethane	**3.2**	ND	**8.2**	ND
Trichloroethylene	ND	ND	ND	ND
1,2-Dichloropropane	**1.3**	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
c-1,3-Dichloropropylene	ND	ND	ND	ND
t-1,3-Dichloropropylene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
Reporting Limits:	2.5	0.5	0.5	0.5
Surrogate Recovery % #1	102	105	104	100
Surrogate Recovery % #2	108	108	105	105
Surrogate Recovery % #3	106	109	107	99

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

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	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
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Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8010 - Volatile Halogenated Hydrocarbons

Parameter	Sample ID Concentration (ug/L) MW504	MW502	MW600	MW601
Dichlorodifluoromethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND
1,1-Dichloroethylene	ND	ND	ND	ND
Methylene Chloride	ND	**1.1**	ND	ND
t-1,2-Dichloroethylene	**0.78**	ND	ND	ND
1,1-Dichloroethane	**2.7**	**0.89**	ND	**1.7**
c-1,2-Dichloroethylene	**14**	**6.9**	**2.1**	**4.3**
Chloroform	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
1,2-Dichloroethane	**13**	**6.1**	**2.9**	**2.7**
Trichloroethylene	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	**0.89**
Bromodichloromethane	ND	ND	ND	ND
c-1,3-Dichloropropylene	ND	ND	ND	ND
t-1,3-Dichloropropylene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
Reporting Limits:	0.5	2.0	5.0	0.5
Surrogate Recovery % #1	106	112	99	67
Surrogate Recovery % #2	81	31*	16*	8.9*
Surrogate Recovery % #3	60	8*	4.5*	*

ND = Not Detected

* Matrix problems due to high hydrocarbons in sample

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

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		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8010 - Volatile Halogenated Hydrocarbons

Parameter	Sample ID Concentration (ug/L) TB	TB #2
Dichlorodifluoromethane	ND	ND
Chloromethane	ND	ND
Vinyl Chloride	ND	ND
Bromomethane	ND	ND
Chloroethane	ND	ND
Trichlorofluoromethane	ND	ND
1,1-Dichloroethylene	ND	ND
Methylene Chloride	ND	ND
t-1,2-Dichloroethylene	ND	ND
1,1-Dichloroethane	ND	ND
c-1,2-Dichloroethylene	ND	ND
Chloroform	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon Tetrachloride	ND	ND
1,2-Dichloroethane	ND	ND
Trichloroethylene	ND	ND
1,2-Dichloropropane	ND	ND
Bromodichloromethane	ND	ND
c-1,3-Dichloropropylene	ND	ND
t-1,3-Dichloropropylene	ND	ND
1,1,2-Trichloroethane	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Dibromochloromethane	ND	ND
Chlorobenzene	ND	ND
Tetrachloroethylene	ND	ND
Bromoform	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
Reporting Limits:	0.5	0.5
Surrogate Recovery % #1	102	102
Surrogate Recovery % #2	114	104
Surrogate Recovery % #3	119	97

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/15/16
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	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
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		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8010 - Volatile Halogenated Hydrocarbons

Sample Spiked: EQUIP BLK

Parameter	MS Recovery	MSD Recovery	RPD	Acceptability Range (%)
1,1-DCE	127%	126%	1.6%	65 - 140
TCE	121%	120%	1.7%	65 - 140
CLBZ	108%	106%	1.9%	65 - 140

Sample Spiked: TB #2

Parameter	MS Recovery	MSD Recovery	RPD	Acceptability Range (%)
1,1-DCE	89%	91%	2.2%	65 - 140
TCE	98%	101%	2.6%	65 - 140
CLBZ	108%	115%	6.5%	65 - 140

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

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	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample ID	Concentration (mg/L)	Surrogate Recovery %	Reporting Limits (mg/L)
MW 104	ND	99	0.5
MW 205	2.1	123	0.5
MW 203	0.64	112	0.5
MW 101	2.4	116	1.0
MW 202	6.5	--	1.0
MW 503	8.2	--	1.0
MW 201	9.0	--	1.0
MW 103	4.1	99	2.0
MW 501	69	--	5.0
MW 206	12	107	1.0
MW 204	12000	--	100
EQUIP BLK	ND	97	0.5
MW 504	99	--	10
MW 502	220	--	10
MW 600	3500	--	100
MW 601	3500	--	100
TB	ND	91	0.5

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

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Attn:	Matt Winefield	**Date Sampled:**	12/12/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample Spiked: MW 104

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Gasoline	127%	111%	14.1%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

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		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Simulated Distillation (Carbon Chain ID)

	Sample ID Concentration (mg/L)					
Carbon Chain Range	MW 205	MW 203	MW 101	MW 202	MW 503	MW 201
C8-C9	ND	ND	ND	ND	ND	ND
C10-C11	ND	ND	ND	ND	ND	ND
C12-C13	ND	ND	ND	ND	ND	ND
C14-C15	ND	ND	ND	ND	ND	ND
C16-C17	ND	ND	ND	ND	ND	ND
C18-C19	ND	ND	ND	ND	ND	ND
C20-C23	ND	ND	ND	ND	ND	ND
C24-C27	ND	ND	ND	ND	ND	ND
C28-C31	ND	ND	ND	ND	ND	ND
C32-C35	ND	ND	ND	ND	ND	ND
C36-C39	ND	ND	ND	ND	ND	ND
C40-C43	ND	ND	ND	ND	ND	ND
C44+	ND	ND	ND	ND	ND	ND
Total	ND	ND	ND	ND	ND	ND
Reporting Limits	5.0	5.0	5.0	5.0	5.0	5.0
Surrogate Recovery %	107	101	103	105	93	108

ND = Not Detected

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TESTING LABORATORIES
JONES ENVIRONMENTAL

LABORATORY RESULTS

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	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12/95
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Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Simulated Distillation (Carbon Chain ID)

	Sample ID Concentration (mg/L)				
Carbon Chain Range	MW 103	MW 501	MW 206	MW 204	MW504
C6-C7	ND	0.7	ND	ND	0.4
C8-C9	ND	9.5	ND	ND	12
C10-C11	ND	9.7	ND	ND	15
C12-C13	ND	ND	ND	ND	9.5
C14-C15	ND	ND	ND	ND	ND
C16-C17	ND	ND	ND	ND	ND
C18-C19	ND	ND	ND	ND	ND
C20-C23	ND	ND	ND	ND	ND
C24-C27	ND	ND	ND	ND	ND
C28-C31	ND	ND	ND	ND	ND
C32-C35	ND	ND	ND	ND	ND
C36-C39	ND	ND	ND	ND	ND
C40-C43	ND	ND	ND	ND	ND
C44+	ND	ND	ND	ND	ND
Total	ND	20	ND	ND	37
Reporting Limits	5.0	5.0	5.0	5.0	5.0
Surrogate Recovery %	99	108	99	98	105

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

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	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
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		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Simulated Distillation (Carbon Chain ID)

	Sample ID Concentration (mg/L)		
Carbon Chain Range	MW 502	MW 600	MW 601
C6-C7	4.0	85	140
C8-C9	24	280	680
C10-C11	5.8	47	200
C12-C13	ND	ND	22
C14-C15	ND	ND	31
C16-C17	7.3	ND	27
C18-C19	ND	ND	10.
C20-C23	ND	ND	ND
C24-C27	ND	ND	ND
C28-C31	ND	ND	ND
C32-C35	ND	ND	ND
C36-C39	ND	ND	ND
C40-C43	ND	ND	ND
C44+	ND	ND	ND
Total	41	410	1100
Reporting Limits	5.0	20	10
Surrogate Recovery %	110	102	85

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/15/16
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2438
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/12/95
		Date Received:	12/14/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/14/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Simulated Distillation (Carbon Chain ID)

Sample Spiked: MW 206

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	101%	97%	4.1%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	12/26/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2452
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/20/95
		Date Received:	12/20/95
Project:	Powerine	**Date Analyzed:**	12/20-27/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. EPA 8010 - Volatile Halogenated Hydrocarbons
3. Mod 8015 Gasoline - Volatile Hydrocarbons
4. ASTM 2887 - Simulated Distillation

Approval:

Steve Jones, Ph.D.
Laboratory Manager

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/26/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2452
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/20/95
		Date Received:	12/20/95
Project:	Powerine	**Date Analyzed:**	12/20/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (ug/L)				Reporting Limits (ug/L)	Surrogate Recovery %
Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes		
MW-603	0.98	1.4	0.62	3.3	0.5	94
MW-107	16	0.99	0.77	2.9	0.5	121
MW-105	11	1.7	0.81	3.7	0.5	96

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/26/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2452
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/20/95
		Date Received:	12/20/95
Project:	Powerine	**Date Analyzed:**	12/20/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: PIPP 02 (A-2449)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	108%	110%	1.3%	65 - 125
o-Xylene	106%	111%	4.4%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/26/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2452
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/20/95
		Date Received:	12/20/95
Project:	Powerine	**Date Analyzed:**	12/27/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8010 - Volatile Halogenated Hydrocarbons

	Sample ID Concentration (ug/L)		
Parameter	MW-603	MW-107	MW-105
Dichlorodifluoromethane	ND	ND	ND
Chloromethane	ND	ND	ND
Vinyl Chloride	ND	ND	ND
Bromomethane	ND	ND	ND
Chloroethane	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND
1,1-Dichloroethylene	**42**	ND	**13**
Methylene Chloride	ND	ND	ND
t-1,2-Dichloroethylene	ND	**6.5**	ND
1,1-Dichloroethane	**4.8**	ND	**4.5**
c-1,2-Dichloroethylene	**6.7**	**28**	**9.4**
Chloroform	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND
1,2-Dichloroethane	**5.7**	ND	**3.3**
Trichloroethylene	**46**	ND	**46**
1,2-Dichloropropane	ND	ND	ND
Bromodichloromethane	ND	ND	ND
c-1,3-Dichloropropylene	ND	ND	ND
t-1,3-Dichloropropylene	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND
Dibromochloromethane	ND	ND	ND
Chlorobenzene	ND	ND	ND
Tetrachloroethylene	**40**	ND	**16**
Bromoform	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND
Reporting Limits:	0.5	0.5	0.5
Surrogate Recovery %#1	93	95	95
Surrogate Recovery %#2	99	88	89
Surrogate Recovery %#3	91	91	92

ND = Not Detected

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JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/26/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2452
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/20/95
		Date Received:	12/20/95
Project:	Powerine	**Date Analyzed:**	12/27/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8010 - Volatile Halogenated Hydrocarbons

Sample Spiked: Clean Water

Parameter	MS Recovery	MSD Recovery	RPD	Acceptability Range (%)
1,1-DCE	80%	82%	2.0%	65 - 140
TCE	86%	73%	16%	65 - 140
CLBZ	82%	70%	15%	65 - 140

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/26/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2452
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/20/95
		Date Received:	12/20/95
Project:	Powerine	**Date Analyzed:**	12/20/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample ID	Concentration (mg/L)	Surrogate Recovery %	Reporting Limits (mg/L)
MW 107	ND	121	0.5
MW 105	ND	96	0.5
MW 603	ND	94	0.5

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/26/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2452
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/20/95
		Date Received:	12/20/95
Project:	Powerine	**Date Analyzed:**	12/2095
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample Spiked: Pipp 02 (A-2449)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Gasoline	94%	95%	0.8%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/26/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2452
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/20/95
		Date Received:	12/20/95
Project:	Powerine	**Date Analyzed:**	12/27/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Simulated Distillation (Carbon Chain ID)

	Sample ID Concentration (mg/L)		
Carbon Chain Range	MW 603	MW 105	MW 107
C8-C9	ND	ND	ND
C10-C11	ND	ND	ND
C12-C13	ND	ND	ND
C14-C15	ND	ND	ND
C16-C17	ND	ND	ND
C18-C19	ND	ND	ND
C20-C23	ND	ND	ND
C24-C27	ND	ND	ND
C28-C31	ND	ND	ND
C32-C35	ND	ND	ND
C36-C39	ND	ND	ND
C40-C43	ND	ND	ND
C44+	ND	ND	ND
Total	ND	ND	ND
Reporting Limits	10	10	10
Surrogate Recovery %	106	111	109

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/26/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2452
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/20/95
		Date Received:	12/20/95
Project:	Powerine	**Date Analyzed:**	12/27/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Simulated Distillation (Carbon Chain ID)

Sample Spiked: MW 206 (A-2438)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	101%	97%	4.1%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. EPA 8010 - Volatile Halogenated Hydrocarbons
3. ATSM 2887 - Simulated Distillation
4. Mod 8015 Gasoline - Volatile Hydrocarbons

Approval:

Steve Jones, Ph.D.
Laboratory Manager

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LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (ug/L)				Reporting Limits	
Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	(ug/L)	Surrogate Recovery %
MW606	ND	ND	ND	ND	0.5	90
MW607	33	3.5	1.7	9.4	0.5	--

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: TB (A-2445) WATER

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	99%	96%	2.7%	65 - 125
o-Xylene	101%	100%	1.7%	65 - 125

Sample Spiked: MW107-70 (A-2445) SOIL

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	95%	96%	1.3%	65 - 125
o-Xylene	99%	102%	3.0%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Simulated Distillation (Carbon Chain ID)

Carbon Chain Range	Sample ID Concentration (mg/L) MW607
C8-C9	ND
C10-C11	ND
C12-C13	ND
C14-C15	ND
C16-C17	ND
C18-C19	ND
C20-C23	1.1
C24-C27	26
C28-C31	2.6
C32-C35	1.3
C36-C39	ND
C40-C43	ND
C44+	ND
Total	30
Reporting Limits	10
Surrogate Recovery %	--

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

Simulated Distillation (Carbon Chain ID)

Sample Spiked: TB (A-2445) WATER

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	83%	104%	18.4%	65 - 125

Sample Spiked: MW605-60 SOIL

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	94%	91%	3.6%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8010 - Volatile Halogenated Hydrocarbons

	Sample ID Concentration (ug/L)	
Parameter	MW606	MW607
Dichlorodifluoromethane	ND	ND
Chloromethane	ND	ND
Vinyl Chloride	ND	ND
Bromomethane	ND	ND
Chloroethane	ND	ND
Trichlorofluoromethane	ND	ND
1,1-Dichloroethylene	ND	**1.1**
Methylene Chloride	ND	ND
t-1,2-Dichloroethylene	ND	ND
1,1-Dichloroethane	ND	ND
c-1,2-Dichloroethylene	ND	ND
Chloroform	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon Tetrachloride	ND	ND
1,2-Dichloroethane	**7.4**	ND
Trichloroethylene	ND	ND
1,2-Dichloropropane	ND	ND
Bromodichloromethane	ND	ND
c-1,3-Dichloropropylene	ND	ND
t-1,3-Dichloropropylene	ND	ND
1,1,2-Trichloroethane	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Dibromochloromethane	ND	ND
Chlorobenzene	ND	ND
Tetrachloroethylene	ND	ND
Bromoform	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
Reporting Limits:	0.5	0.5
Surrogate Recovery % #1	111	109
Surrogate Recovery % #2	99	122
Surrogate Recovery % #3	96	125

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/ Water

EPA 8010 - Volatile Halogenated Hydrocarbons

Sample Spiked: TB (A-2445) WATER

Parameter	MS Recovery	MSD Recovery	RPD	Acceptability Range (%)
1,1-DCE	89%	91%	2.2%	65 - 140
TCE	98%	101%	2.6%	65 - 140
CLBZ	108%	115%	6.5%	65 - 140

Sample Spiked: MW-605-10 (A-2445) SOIL

Parameter	MS Recovery	MSD Recovery	RPD	Acceptability Range (%)
1,1-DCE	91%	89%	2.0%	65 - 140
TCE	100%	98%	2.6%	65 - 140
CLBZ	112%	110%	1.4%	65 - 140

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample ID	Concentration (mg/L)	Surrogate Recovery %	Reporting Limits (mg/L)
MW 606	ND	90	0.5
MW 607	1.2	--	0.5

ND = Not Detected

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JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/20/95
Client Address:	12354 Lakeland Rd.	**JEL Ref. No.:**	A-2446
	Sante Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield/Nora Hill	**Date Sampled:**	12/18/95
		Date Received:	12/18/95
Project:	Powerine Oil Co.	**Date Analyzed:**	12/18/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/ Water

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

WATER
Sample Spiked: TB

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Gasoline	107%	106%	0.8%	65 - 125

SOIL
Sample Spiked: MW 107-70 (A-2445)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Gasoline	103%	106%	2.5%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. EPA 8010 - Volatile Halogenated Hydrocarbons
3. ATSM 2887 - Simulated Distillation
4. Mod 8015 Gasoline - Volatile Hydrocarbons

Approval:

Steve Jones, Ph.D.
Laboratory Manager

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JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (ug/L)				Reporting Limits	
Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	(ug/L)	Surrogate Recovery %
MW605	10	ND	ND	4.9	0.5	87
MW604	160	3.3	7.8	21	0.5	--
MW106	12	3.5	10	10	0.5	--

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: UST-2A (A2452)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	115%	115%	0.0%	65 - 125
o-Xylene	110%	111%	0.2%	65 - 125

Sample Spiked: CLEAN WATER

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	96%	96%	0.2%	65 - 125
o-Xylene	96%	102%	6.6%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

EPA 8010 - Volatile Halogenated Hydrocarbons

	Sample ID Concentration (ug/L)		
Parameter	MW605	MW604	MW106
Dichlorodifluoromethane	ND	ND	ND
Chloromethane	ND	ND	ND
Vinyl Chloride	ND	ND	ND
Bromomethane	ND	ND	ND
Chloroethane	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND
1,1-Dichloroethylene	**4.5**	ND	ND
Methylene Chloride	ND	ND	ND
t-1,2-Dichloroethylene	ND	ND	**15**
1,1-Dichloroethane	**1.6**	ND	ND
c-1,2-Dichloroethylene	ND	**2.2**	**33**
Chloroform	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND
1,2-Dichloroethane	ND	**1.2**	ND
Trichloroethylene	**18**	ND	**1.5**
1,2-Dichloropropane	ND	ND	ND
Bromodichloromethane	ND	ND	ND
c-1,3-Dichloropropylene	ND	ND	ND
t-1,3-Dichloropropylene	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND
Dibromochloromethane	ND	ND	ND
Chlorobenzene	ND	ND	ND
Tetrachloroethylene	**14**	ND	ND
Bromoform	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND
Reporting Limits:	1.0	1.0	1.0
Surrogate Recovery % #1	81	119	105
Surrogate Recovery % #2	68	93	102
Surrogate Recovery % #3	72	109	109

ND = Not Detected

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

EPA 8010 - Volatile Halogenated Hydrocarbons

Sample Spiked: MW603-10 (SOIL)

Parameter	MS Recovery	MSD Recovery	RPD	Acceptability Range (%)
1,1-DCE	101%	106%	4.6%	65 - 140
TCE	98%	102%	3.3%	65 - 140
CLBZ	85%	85%	0.68%	65 - 140

Sample Spiked: MW604 (WATER)

Parameter	MS Recovery	MSD Recovery	RPD	Acceptability Range (%)
1,1-DCE	103%	105%	0.4%	65 - 125
TCE	104%	104%	0.36%	65 - 125
CLBZ	95%	96%	1.3%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample ID	Concentration (mg/L)	Surrogate Recovery %	Reporting Limits (mg/L)
MW 605	ND	87	1.0
MW 604	1.9*	--	1.0
MW 106	0.79*	--	1.0

* Hydrocarbons in the gasoline range are not typical of gasoline.

ND = Not Detected

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TESTING LABORATORIES

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

SOIL

Sample Spiked: UST-2A (A-2452)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Gasoline	98%	100%	1.2%	65 - 125

WATER

Sample Spiked: Clean Water

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Gasoline	104%	107%	3.6%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Water

Simulated Distillation (Carbon Chain ID)

	Sample ID Concentration (mg/L)	
Carbon Chain Range	MW 106	MW 604
C8-C9	ND	ND
C10-C11	ND	ND
C12-C13	ND	ND
C14-C15	ND	ND
C16-C17	ND	ND
C18-C19	ND	ND
C20-C23	ND	ND
C24-C27	ND	ND
C28-C31	ND	ND
C32-C35	ND	ND
C36-C39	ND	ND
C40-C43	ND	ND
C44+	ND	ND
Total	ND	ND
Reporting Limits	10	10
Surrogate Recovery %	109	103

ND = Not Detected

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	12/21/95
Client Address:	12354 Lakeland Road	**JEL Ref. No.:**	A-2450
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	63-01
Attn:	Matt Winefield	**Date Sampled:**	12/19/95
		Date Received:	12/19/95
Project:	Powerine	**Date Analyzed:**	12/19/95
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil/Water

Simulated Distillation (Carbon Chain ID)

WATER
Sample Spiked: MW 206 (A-2438)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	101%	97%	4.1%	65 - 125

SOIL
Sample Spiked: MW 605-60

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	94%	91%	3.6%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

CORE LABORATORIES

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A N A L Y T I C A L R E P O R T

Job Number: 953702
Prepared For:

Miller Brooks Env.
John Tecchia
18700 Beach Blvd Ste 205
Huntington Beach, CA 92648

Date: 12/27/95

Signature

12/27/95
Date:

Name: Timothy A. Scott

Core Laboratories
1250 Gene Autry Way
Anaheim, CA 92805

Title: LABORATORY MANAGER

CA. E. L. A. P. 1174
L. A. C. S. D. 10146

CORE LABORATORIES

LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 09:40
WORK DESCRIPTION...: MW 101

LABORATORY I.D...: 953702-0010
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.050	mg/L	EPA 6020		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 12:07
WORK DESCRIPTION...: MW 103

LABORATORY I.D...: 953702-0014
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.050	mg/L	EPA 6020		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 07:40
WORK DESCRIPTION...: MW 104

LABORATORY I.D...: 953702-0007
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.050	mg/L	EPA 6020		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 11:25
WORK DESCRIPTION...: MW 201

LABORATORY I.D...: 953702-0013
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.050	mg/L	EPA 6020		

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LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 10:17
WORK DESCRIPTION...: MW 202

LABORATORY I.D...: 953702-0011
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.050	mg/L	EPA 6020		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 09:10
WORK DESCRIPTION...: MW 203

LABORATORY I.D...: 953702-0009
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.050	mg/L	EPA 6020		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 15:18
WORK DESCRIPTION...: MW 204

LABORATORY I.D...: 953702-0001
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.050	mg/L	EPA 6020		

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LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 08:30
WORK DESCRIPTION...: MW 205

LABORATORY I.D...: 953702-0008
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.050	mg/L	EPA 6020		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 14:40
WORK DESCRIPTION...: MW 206

LABORATORY I.D...: 953702-0016
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.050	mg/L	EPA 6020		

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LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 13:50
WORK DESCRIPTION...: MW 501

LABORATORY I.D...: 953702-0015
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.050	mg/L	EPA 6020		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 16:15
WORK DESCRIPTION...: MW 502

LABORATORY I.D...: 953702-0004
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.050	mg/L	EPA 6020		

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LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 10:50
WORK DESCRIPTION...: MW 503

LABORATORY I.D...: 953702-0012
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.050	mg/L	EPA 6020		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 15:45
WORK DESCRIPTION...: MW 504

LABORATORY I.D...: 953702-0003
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.050	mg/L	EPA 6020		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 17:05
WORK DESCRIPTION...: MW 600

LABORATORY I.D...: 953702-0005
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	0.33	0.050	mg/L	EPA 6020		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 17:45
WORK DESCRIPTION...: MW 601

LABORATORY I.D...: 953702-0006
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals Digestion-Aqueous	COMPLETED		N/A	EPA 3010A	12/22/95	S A
Metals		*10		EPA 6020	12/22/95	EAW
Lead (Pb)	0.17	0.050	mg/L	EPA 6020		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

12/27/95

JOB NUMBER: 953702 CUSTOMER: Miller Brooks Env. ATTN: John Tecchia

CLIENT I.D.....: Powerine
DATE SAMPLED.....: 12/13/95
TIME SAMPLED.....: 15:20
WORK DESCRIPTION...: EQUIP BLK

LABORATORY I.D...: 953702-0002
DATE RECEIVED....: 12/15/95
TIME RECEIVED....: 08:09
REMARKS.....: H2O PLASTIC

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Metals		*1		EPA 6020	12/22/95	EAW
Lead (Pb)	ND	0.005	mg/L	EPA 6020		

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QUALITY ASSURANCE FOOTER

METHOD REFERENCES

(1) EPA SW-846, Test Methods for Evaluating Solid Waste, Third Edition, November 1990, and July 1992 update
(2) Standard Methods for the Examination of Water and Wastewater, 17th Edition, 1989
(3) EPA 600/4-79-020, Methods of Chemical Analysis for Waters and Wastes, March 1983
(4) Federal Register, Friday, October 26, 1984 (40 CFR Part 136)
(5) American Society for Testing and Materials, Volumes 5.01, 5.02, 5.03, 1992
(6) EPA 600/4-89-001, Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Fresh Water Organisms
(7) EPA 600/4-90-027, Methods for Measuring the Acute Toxicity of Effluent and Receiving Waters to Fresh Water and Marine Organisms, Fourth Edition

COMMENTS

All methods of chemical analysis have a statistical uncertainty associated with the results. Unless otherwise indicated, the data in this report are within the limits of uncertainty as specified in the referenced method. Quality control acceptance criteria are based either on actual laboratory performance or on limits specified in the referenced method. The date and time of analysis indicated on the QA report may not reflect the actual time of analysis for QC samples. All data reported on an "as received" basis unless otherwise indicated. Data reported in the QA report may be lower than sample data due to dilution of samples into the calibration range of the analysis. Sample concentrations for solid samples are calculated on an as received (wet) basis. Unless otherwise indicated, volatiles by gas chromatograpy are reported from a single column. Volatiles analyses on low level soils are conducted at room temperature.

FLAGS, FOOTNOTES, AND ABBREVIATIONS (as needed)

NA = Not analyzed
N/A = Not applicable
ug/L = Micrograms per liter
mg/L = Milligrams per liter
ND = Not detected at a value greater than the reporting limit
NC = Not calculable due to values lower than the detection limit
N.I. = Not Ignitable
S.I. = Sustains Ignition
I(NS) = Ignites, but does not Sustain Ignition
RPD = Relative Percent Difference
(a) = Surrogate recoveries were outside acceptable ranges due to matrix effects.
(b) = Surrogate recoveries were not calculated due to dilution of the sample below the detectable range for the surrogate.
(c) = Matrix spike recoveries were outside acceptable ranges due to matrix effects.
(d) = Relative Percent Difference (RPD) for duplicate analysis outside acceptance limits due to actual differences in the sample matrix.
(e) = The limit listed for flammability indicates the upper limit for the test. Samples are not tested at temperatures above 140 Fahrenheit since only samples which will sustain ignition at temperatures below 140 are considered flammable.
(f) = Results for this hydrocarbon range did not match a typical hydrocarbon pattern. Results were quantified using a diesel standard, however, the hydrocarbon pattern did not match a diesel pattern.
(g) = Results for this hydrocarbon range did not match a typical hydrocarbon pattern. Results were quantified using a gasoline standard, however, the hydrocarbon pattern did not match a gasoline pattern.
(h) = High dilution due to matrix effects
(i) = Samples with results below 500 mg/L are considered hazardous

QC SAMPLE IDENTIFICATIONS

MB = Method Blank
RB = Reagent Blank
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
CS = Calibration Standard
ICB = Initial Calibration Verification
CCV = Continuing Calibration Verification
SB = Storage Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate
MD = Matrix Duplicate
BS = Blank Spike
SS = Surrogate Spike
LCS = Laboratory Control Standard
RS = Reference Standard

SUBCONTRACTED LABORATORY LOCATIONS

Core Laboratories:	Aurora, Colorado(ELAP #1933)	*AU
	Casper, Wyoming	*CA
	Corpus Christi, Texas	*CC
	Houston, Texas	*HP
	Lake Charles, Louisiana	*LC
	Long Beach, California	*LB
Aquatic Testing Laboratories:		
	Ventura, California	*AT

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CORE LABORATORIES, INC.

NO.

CHAIN OF CUSTODY RECORD

1 of 2

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: Miller Brook Env.	PROJECT NAME/NUMBER: Pauline
SEND REPORT TO: Miller Brooks Env	BILLING INFORMATION
ADDRESS: 18700 Beach blvd, ste 205	BILL TO: Pauline Oil Company
Huntington Beach CA 92648	ADDRESS: 12354 Lakeland Road P.O. Box 2108, Santa Fe Springs 90670-3957
PHONE: 965-9161	PHONE: 310 941-6111
FAX: 965-9163	FAX: 310 941-8522 PO NO.:

NUMBER OF CONTAINERS

ANALYSIS / METHOD REQUEST: Total Lead 1421

LAB JOB NO.

SAMPLE NO	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	REMARKS / PRECAUTIONS
7 MW104		12-13-95	0790	H2O	500mL/PL		
8 MW205			0830				
9 MW203			0910				
10 MW101			0940				
11 MW202			1017				
12 MW505			1050				
13 MW201			1125				
14 MW103			1207				
15 MW501			1350				
16 MW206			1440				

SAMPLER: Randy Hopkin

SHIPMENT METHOD:

AIRBILL NO.:

REQUIRED TURNAROUND: SAME DAY | 24 HOURS | 48 HOURS | 72 HOURS | 5 DAYS | 10 DAYS | X ROUTINE | OTHER 3 weeks

	DATE		DATE		DATE
1. RELINQUISHED BY: SIGNATURE:	12-15-95	2. RELINQUISHED BY: SIGNATURE: Greg Sizemore	12-15-95	3. RELINQUISHED BY: SIGNATURE:	
PRINTED NAME/COMPANY: Randy Hopkin/Miller Brooks	TIME 8:09	PRINTED NAME/COMPANY: Core	TIME 9:07	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY: SIGNATURE: Greg Sizemore	DATE 12/15/95	2. RECEIVED BY: SIGNATURE: Lance R. Bell	DATE 12-15	3. RECEIVED BY: SIGNATURE:	DATE
PRINTED NAME/COMPANY: Core	TIME 8.09	PRINTED NAME/COMPANY: Lance R. Bell/Core	TIME 9:07	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

☐ Anaheim, California — 1250 E. Gene Autry Way, Anaheim, California 92805, (714) 937 1094, (800) 404 2673

☐ Aurora (Denver), Colorado — 10703 E. Bethany Drive, Aurora, Colorado 80014, (303) 751 1780, (800) 972 2673

☐ Casper, Wyoming — 420 West 1st Street, Casper, Wyoming 82601, (307) 235 5741, (800) 666 0306

☐ Corpus Christi, Texas — 1733 North Padre Island Drive, Corpus Christi, Texas 78408, (512) 289 2673, (800) 548 8228

☐ Houston, Texas — 8210 Mosley Road, Houston, Texas 77075, (713) 943 9776, (800) 734 2673

☐ Lake Charles, Louisiana — 3645 Beglis Parkway, Sulphur, Louisiana 70663, (318) 583 4926, (800) 259 4926

☐ Long Beach, California — 3700 Cherry Avenue, Long Beach, California 90807, (310) 595 8401, (800) 814 3433

ORIGINAL

CORE LAB

CORE LABORATORIES, INC.

No. [illegible]

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: Miller Brooks Env	PROJECT NAME/NUMBER: Powerine
SEND REPORT TO: Miller Brooks Env	**BILLING INFORMATION**
ADDRESS: 18700 Beach Blvd, ste 205	BILL TO: ~~[illegible]~~ Powerine Oil
Huntington Beach, CA	ADDRESS: 12354 Lakeland Road
92648	P.O. Box 2108 Santa Fe Springs
PHONE: 965-9161	PHONE: 944-6111 90670-3857
FAX: 965-9163	FAX: 310 944-8522 PO NO.:

NUMBER OF CONTAINERS

ANALYSIS / METHOD REQUEST: Total Lead 7421

LAB JOB NO. 702

	SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	Total Lead 7421	REMARKS / PRECAUTIONS
1	mw209		12-13-95	1518	H2O	500ml Pl	—		✓	
2	Equip Blk		↓	1520	↓	↓			✓	
3	mw509			1545					✓	
4	mw502			1615					✓	
5	mw600			1705					✓	
6	mw601		↓	1745	↓	↓			✓	

SAMPLER: Randy Hogbin — SHIPMENT METHOD: — AIRBILL NO.:

REQUIRED TURNAROUND*: SAME DAY / 24 HOURS / 48 HOURS / 72 HOURS / 5 DAYS / 10 DAYS / X ROUTINE (2 weeks) / OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: [signature]	12-15-95	SIGNATURE: Greg Sizemore	12-15-95	SIGNATURE:	
PRINTED NAME/COMPANY: Randy Hogbin / Miller Brooks	TIME	PRINTED NAME/COMPANY: Core	TIME 9:07	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: Greg Sizemore	12-15-95	SIGNATURE: Lance R. Bell	12-15	SIGNATURE:	
PRINTED NAME COMPANY: Core	TIME 8:09	PRINTED NAME/COMPANY: Lance R. Bell / Core	TIME 9:07	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

☐ **Anaheim, California** 1250 E. Gene Autry Way, Anaheim, California 92805, (714) 937 1094, (800) 404 2673

☐ **Aurora (Denver), Colorado** 10703 E. Bethany Drive, Aurora, Colorado 80014, (303) 751 1780, (800) 972 2673

☐ **Casper, Wyoming** 420 West 1st Street, Casper, Wyoming 82601, (307) 235 5741, (800) 666 0306

☐ **Corpus Christi, Texas** 1733 North Padre Island Drive, Corpus Christi, Texas 78408, (512) 289 2673, (800) 548 8228

☐ **Houston, Texas** 8210 Mosley Road, Houston, Texas 77075, (713) 943 9776, (800) 734 2673

☐ **Lake Charles, Louisiana** 3645 Beglis Parkway, Sulphur, Louisiana 70663, (318) 583 4926, (800) 259 4926

☐ **Long Beach, California** 3700 Cherry Avenue, Long Beach, California 90807, (310) 595 8401, (800) 814 3433

ORIGINAL

CORELAB

CORE LABORATORIES

CORE LABORATORIES
A N A L Y T I C A L R E P O R T

Job Number: 960070
Prepared For:

Powerine Oil Company
Matt Winefield
12354 E. Lakeland Road
Santa Fe Springs, CA 90670

Date: 01/17/96

Signature

1/17/96
Date:

Name: Timothy A. Scott

Core Laboratories
1250 Gene Autry Way
Anaheim, CA 92805

Title: LABORATORY MANAGER

REVISED REPORT

C.A.E.L.A.P. 1174
L.A.C.S.D. 10146

CORE LABORATORIES

LABORATORY TESTS RESULTS

01/17/96

JOB NUMBER: 960070 CUSTOMER: Powerine Oil Company ATTN: Matt Winefield

SAMPLE NUMBER: 1 DATE RECEIVED: 01/11/96 TIME RECEIVED: 11:35 SAMPLE DATE: 01/10/96 SAMPLE TIME: 10:10
PROJECT: P.O.C 63-01 SAMPLE: MW 605 REM: H2O PLASTIC

SAMPLE NUMBER: 2 DATE RECEIVED: 01/11/96 TIME RECEIVED: 11:35 SAMPLE DATE: 01/10/96 SAMPLE TIME: 10:33
PROJECT: P.O.C 63-01 SAMPLE: MW 606 REM: H2O PLASTIC

SAMPLE NUMBER: 3 DATE RECEIVED: 01/11/96 TIME RECEIVED: 11:35 SAMPLE DATE: 01/10/96 SAMPLE TIME: 10:50
PROJECT: P.O.C 63-01 SAMPLE: MW 607 REM: H2O PLASTIC

SAMPLE NUMBER: 4 DATE RECEIVED: 01/11/96 TIME RECEIVED: 11:35 SAMPLE DATE: 01/10/96 SAMPLE TIME: 11:10
PROJECT: P.O.C 63-01 SAMPLE: MW 604 REM: H2O PLASTIC

SAMPLE NUMBER: 5 DATE RECEIVED: 01/11/96 TIME RECEIVED: 11:35 SAMPLE DATE: 01/10/96 SAMPLE TIME: 11:40
PROJECT: P.O.C 63-01 SAMPLE: MW 603 REM: H2O PLASTIC

SAMPLE NUMBER: 6 DATE RECEIVED: 01/11/96 TIME RECEIVED: 11:35 SAMPLE DATE: 01/10/96 SAMPLE TIME: 13:30
PROJECT: P.O.C 63-01 SAMPLE: MW 108 REM: H2O PLASTIC

TEST DESCRIPTION	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	SAMPLE 5	SAMPLE 6	UNITS OF MEASURE
Lead (Pb), dissolved	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/L

REVISED REPORT

1250 Gene Autry Way
Anaheim, CA 92805
(714) 937-1094

CORE LABORATORIES

LABORATORY TESTS RESULTS
01/17/96

JOB NUMBER: 960070 CUSTOMER: Powerine Oil Company ATTN: Matt Winefield

SAMPLE NUMBER: 7 DATE RECEIVED: 01/11/96 TIME RECEIVED: 11:35 SAMPLE DATE: 01/10/96 SAMPLE TIME: 14:00
PROJECT: P.O.C 63-01 SAMPLE: MW 107 REM: H2O PLASTIC

SAMPLE NUMBER: 8 DATE RECEIVED: 01/11/96 TIME RECEIVED: 11:35 SAMPLE DATE: 01/10/96 SAMPLE TIME: 14:15
PROJECT: P.O.C 63-01 SAMPLE: MW 106 REM: H2O PLASTIC

SAMPLE NUMBER: 9 DATE RECEIVED: 01/11/96 TIME RECEIVED: 11:35 SAMPLE DATE: 01/10/96 SAMPLE TIME: 14:35
PROJECT: P.O.C 63-01 SAMPLE: MW 105 REM: H2O PLASTIC

TEST DESCRIPTION	SAMPLE 7	SAMPLE 8	SAMPLE 9				UNITS OF MEASURE
Lead (Pb), dissolved	<0.005	0.010	0.005				mg/L

REVISED REPORT

1250 Gene Autry Way
Anaheim, CA 92805
(714) 937-1094

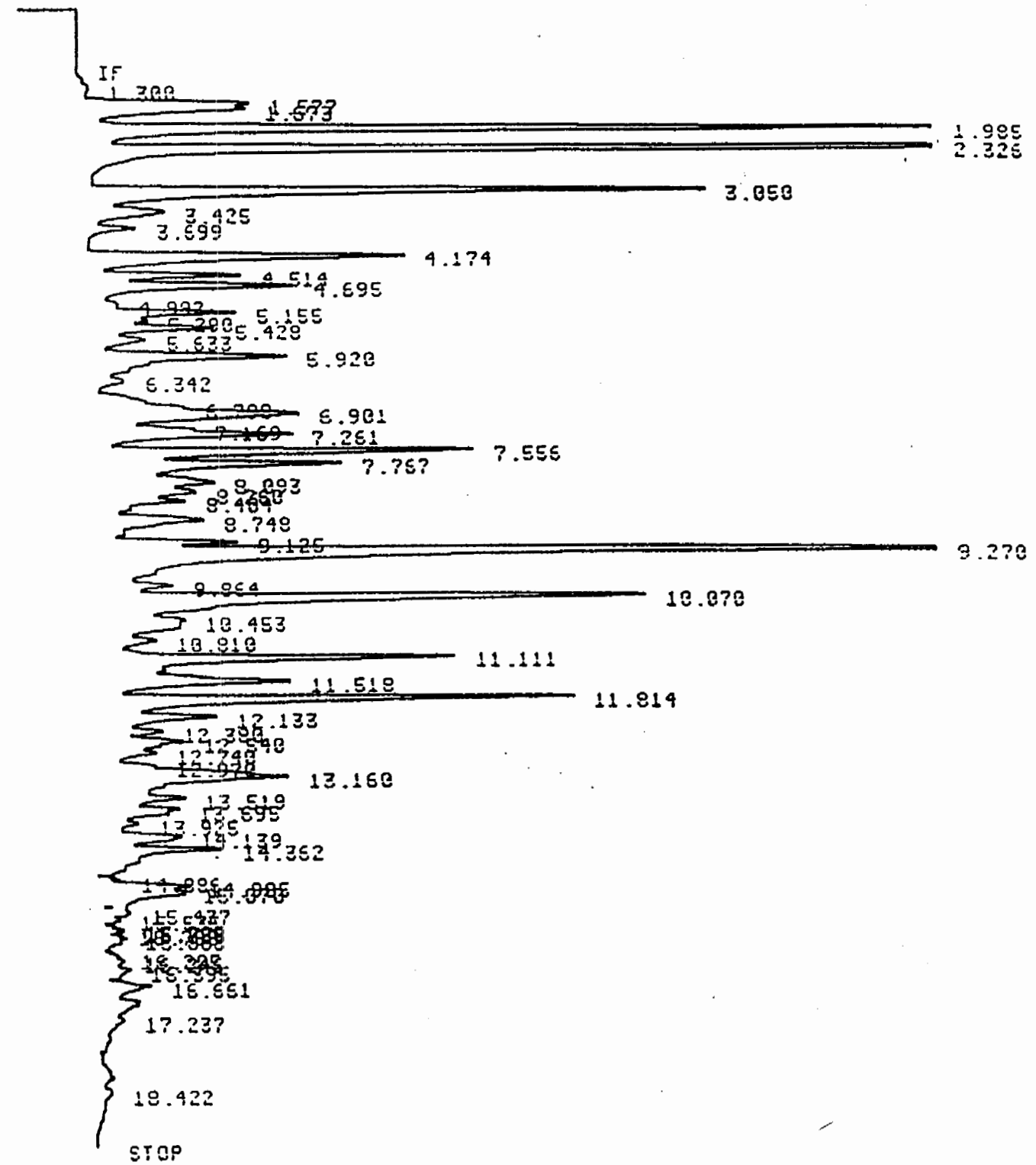
CORE LABORATORIES

QUALITY ASSURANCE REPORT
01/25/96

JOB NUMBER: 960070 CLIENT: Reserve Oil Company ATTN: Mark Winefield

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER: Lead (Pb), dissolved				DATE/TIME ANALYZED: 01/17/96 14:56						QC BATCH NUMBER: 9608A60
REPORTING LIMIT/DF: 0.005 UNITS: mg/L				METHOD REFERENCE : EPA 6020						TECHNICIAN: EAW
BLANK	ICB	IB011796	<0.005							
BLANK	CCB	CB011796	<0.005							
STANDARD	ICVS	M94388	1.073			1.0	107			
STANDARD	CCVS	M94388	1.034			1.0	103			
SPIKE	MATRIX	960071-4	0.457					0	0.50	91
DUPLICATE	MS/MSD	960071-4	0.457	0.464	2					

1250 Gene Autry Way
Anaheim, CA 92805
(714) 937-1094



MW-106

8020/8015 CHROMATOGRAM

EPA 8020 / MODIFIED 8015 GASOLINE

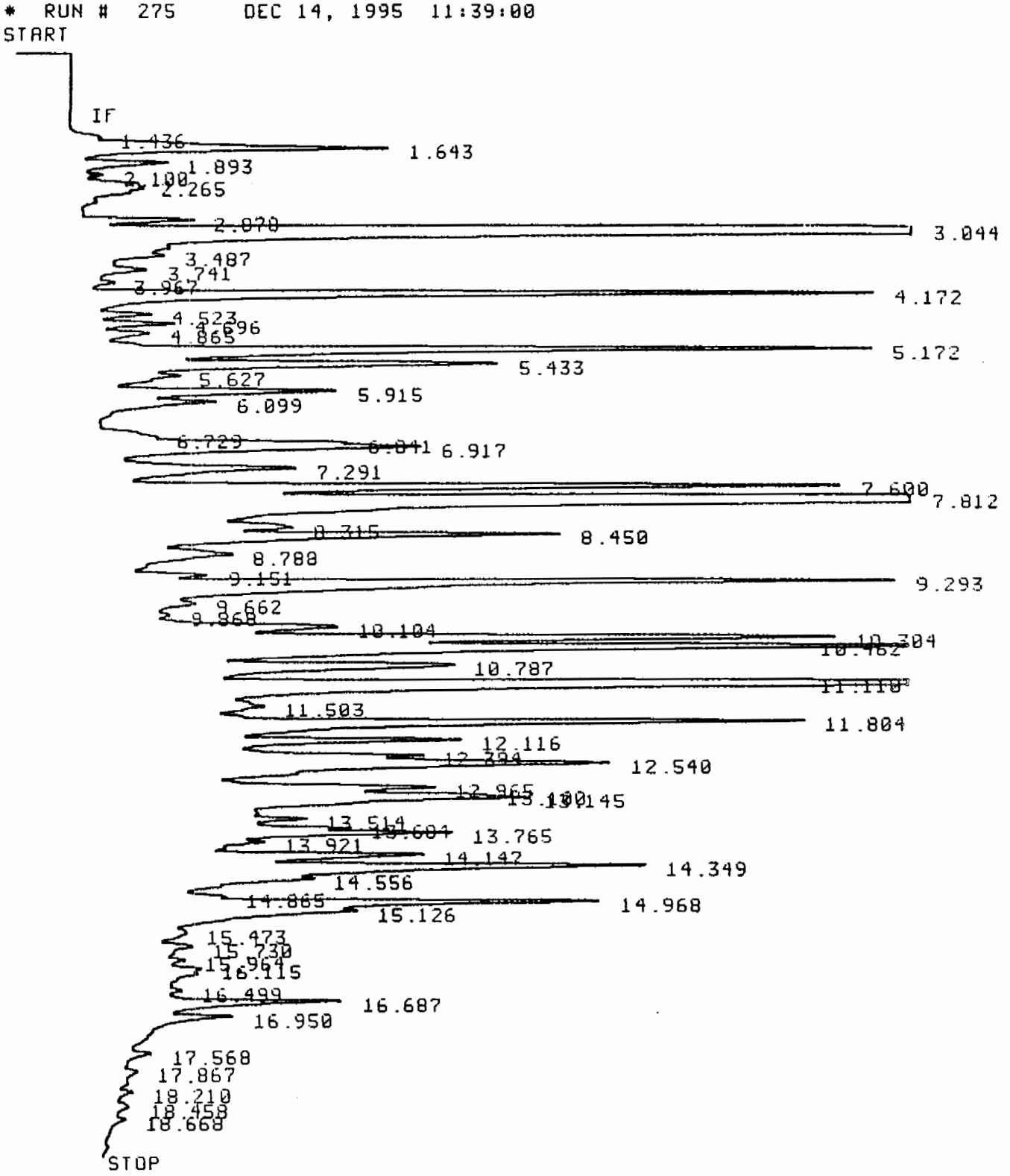
AREA%

RT	AREA	TYPE	WIDTH	AREA%
1.300	19526	VH	.175	.14365
1.577	152906	HH	.098	1.12488
1.673	196909	HH	.129	1.44859
1.985	817490	HH	.104	6.01400
2.326	1022174	HH	.096	7.51979
3.050	713777	HH	.126	5.25102
3.425	153798	HH	.195	1.13144
3.699	69902	HH	.131	.51425
4.174	434696	HH	.148	3.19791
4.514	161189	HH	.109	1.18581
4.695	265571	HH	.137	1.95372
4.992	40652	HH	.111	.29906
5.155	165341	HH	.115	1.21636
5.290	56071	HH	.089	.41250
5.429	162099	HH	.131	1.19243
5.633	102217	HH	.168	.75198
5.920	265940	HH	.141	1.95643
6.342	78775	HH	.190	.57952
6.798	159572	HH	.166	1.17392
6.901	358700	HH	.180	2.63884
7.169	81669	HH	.078	.60081
7.261	273151	HH	.142	2.00948
7.556	394557	HH	.112	2.90262
7.767	352550	HH	.149	2.59359
8.093	222388	HH	.181	1.63603
8.260	149813	HH	.141	1.10212
8.404	117692	HH	.122	.86582
8.748	231447	HH	.204	1.70268
9.125	141033	HH	.098	1.03753
9.270	1427479	HH	.140	10.50148
9.864	116656	HH	.139	.85820
10.070	862209	HH	.170	6.34297
10.453	111323	HH	.117	.81897
10.810	118809	HH	.174	.87404
11.111	461421	HH	.138	3.39452
11.518	343697	HH	.181	2.52846
11.814	580817	HH	.131	4.27287
12.133	192915	HH	.157	1.41921
12.390	87423	HH	.120	.64314
12.540	168856	HH	.183	1.24222
12.740	85987	HH	.128	.63258
12.970	68988	HH	.104	.50752
13.160	394564	HH	.212	2.90267
13.519	126540	HH	.137	.93091
13.695	77963	HH	.089	.57355
13.925	55982	HH	.110	.41184
14.139	176088	HH	.198	1.29542
14.362	183835	HH	.145	1.35241
14.886	23898	HH	.071	.17581
14.985	100290	HH	.105	.73780
15.070	49186	HH	.055	.36184
15.437	47947	HH	.113	.35273
15.535	10015	HH	.031	.07368
15.725	27819	HH	.077	.20465
15.750	13209	HH	.037	.09717
15.785	10134	HH	.030	.07455
15.863	29130	HH	.078	.21430
16.205	37427	HH	.114	.27534
16.246	18849	HH	.053	.13867
16.395	77757	HH	.189	.57203
16.661	124702	HH	.208	.91739
17.237	7011	BP	.079	.05158
18.422	12620	VP	.134	.09284

TOTAL AREA= [illegible]

MW-106

8020/8015 CHROMATOGRAM DATA



MW-504

8020/8015 CHROMATOGRAM

RUN# 275 DEC 14, 1995 11:39:00

EPA 8020 / MODIFIED 8015 GASOLINE

AREA%

RT	AREA	TYPE	WIDTH	AREA%
1.436	29631	BH	.100	.08757
1.643	394767	HH	.134	1.16662
1.893	106316	HH	.116	.31419
2.100	25631	HH	.080	.07575
2.265	54285	HH	.083	.16042
2.878	103568	HH	.088	.30607
3.044	4238845	HH	.099	12.52671
3.487	109244	HH	.124	.32284
3.741	112066	HH	.155	.33118
3.967	53319	HH	.123	.15757
4.172	799359	HH	.109	2.36228
4.523	86669	HH	.112	.25613
4.696	109511	HH	.111	.32363
4.865	114089	HH	.152	.33716
5.172	899487	HH	.123	2.65818
5.433	523272	HH	.132	1.54636
5.627	188756	HH	.183	.55782
5.915	319518	HH	.129	.94425
6.099	270480	HH	.197	.79933
6.729	125789	HH	.152	.37173
6.841	184167	HH	.072	.54425
6.917	486152	HH	.149	1.43669
7.291	400513	HH	.190	1.18360
7.600	782615	HH	.111	2.31280
7.812	3364730	HH	.132	9.94351
8.315	298918	HH	.144	.88337
8.450	656956	HH	.145	1.94145
8.788	357597	HH	.233	1.05678
9.151	140585	HH	.109	.41546
9.293	1224751	HH	.162	3.61941
9.662	208304	HH	.175	.61558
9.868	116097	HH	.121	.34309
10.104	463282	HH	.186	1.36910
10.304	884528	HH	.126	2.61397
10.462	1330450	HH	.156	3.93177
10.787	742540	HH	.209	2.19437
11.110	1939829	HH	.138	5.73262
11.604	415042	HH	.228	1.22654
11.804	1199082	HH	.178	3.54355
12.116	525368	HH	.144	1.55258
12.394	408290	HH	.124	1.20659
12.540	893284	HH	.179	2.63985
12.965	528014	HH	.156	1.56040
13.100	244665	HH	.063	.72304

MW-504

8020/8015 CHROMATOGRAM DATA

13.145	702628	HH	.167	2.07642
13.514	253193	HH	.115	.74824
13.684	269282	HH	.103	.79579
13.765	415869	HH	.117	1.22898
13.921	200331	HH	.110	.59202
14.147	490037	HH	.149	1.44817
14.349	843621	HH	.159	2.49308
14.556	296404	HH	.131	.87594
14.865	149032	HH	.102	.44042
14.968	641078	HH	.131	1.89453
15.126	539895	HH	.202	1.59551
15.473	240449	HH	.217	.71058
15.730	276960	HH	.238	.81848
15.964	133708	HH	.121	.39514
16.115	131950	HH	.106	.38994
16.499	121826	HH	.113	.36002
16.687	461912	HH	.183	1.36505
16.950	521320	HH	.341	1.54062
17.568	156360	HH	.201	.46208
17.867	110803	HH	.171	.32745
18.210	103735	HH	.171	.30656
18.458	127369	HH	.223	.37648
18.668	190375	HH	.354	.56260

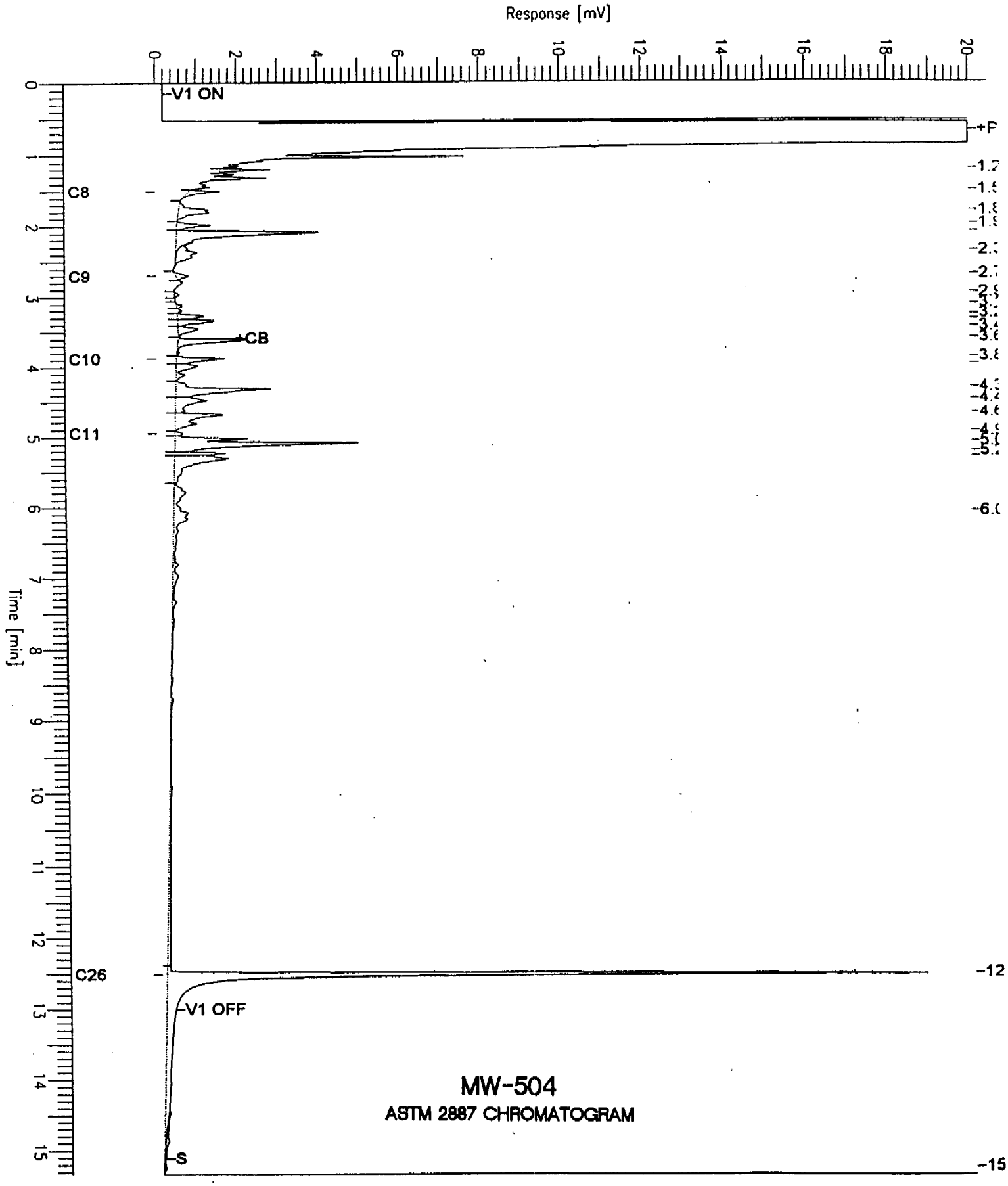
MW-504

8020/8015 CHROMATOGRAM DATA

Chromatogram

Sample Name : MW-504
FileName : C:\TC4\DATA\DATA4\B119002A.raw
Method : GC2_2887
Start Time : 0.00 min End Time : 15.34 min
Sample Factor: 0.0 Plot Offset: 0 mV

Sample #: 177 Page 1 of 1
Date : 12/31/95 03:33 PM
Time of Injection: 12/31/95 03:17 PM
Low Point : 0.00 mV High Point : 20.00 mV
Plot Scale: 20.0 mV



MW-504
ASTM 2887 CHROMATOGRAM

oftware Version: 4.0<1C29>
Sample Name : MW-504 Time : 12/31/95 03:33 PM
Sample Number: 177 Study : POWERINE
Operator :

Instrument : GC2 Channel : A A/D mV Range : 1000
AutoSampler : NONE
Rack/Vial : 30504/40

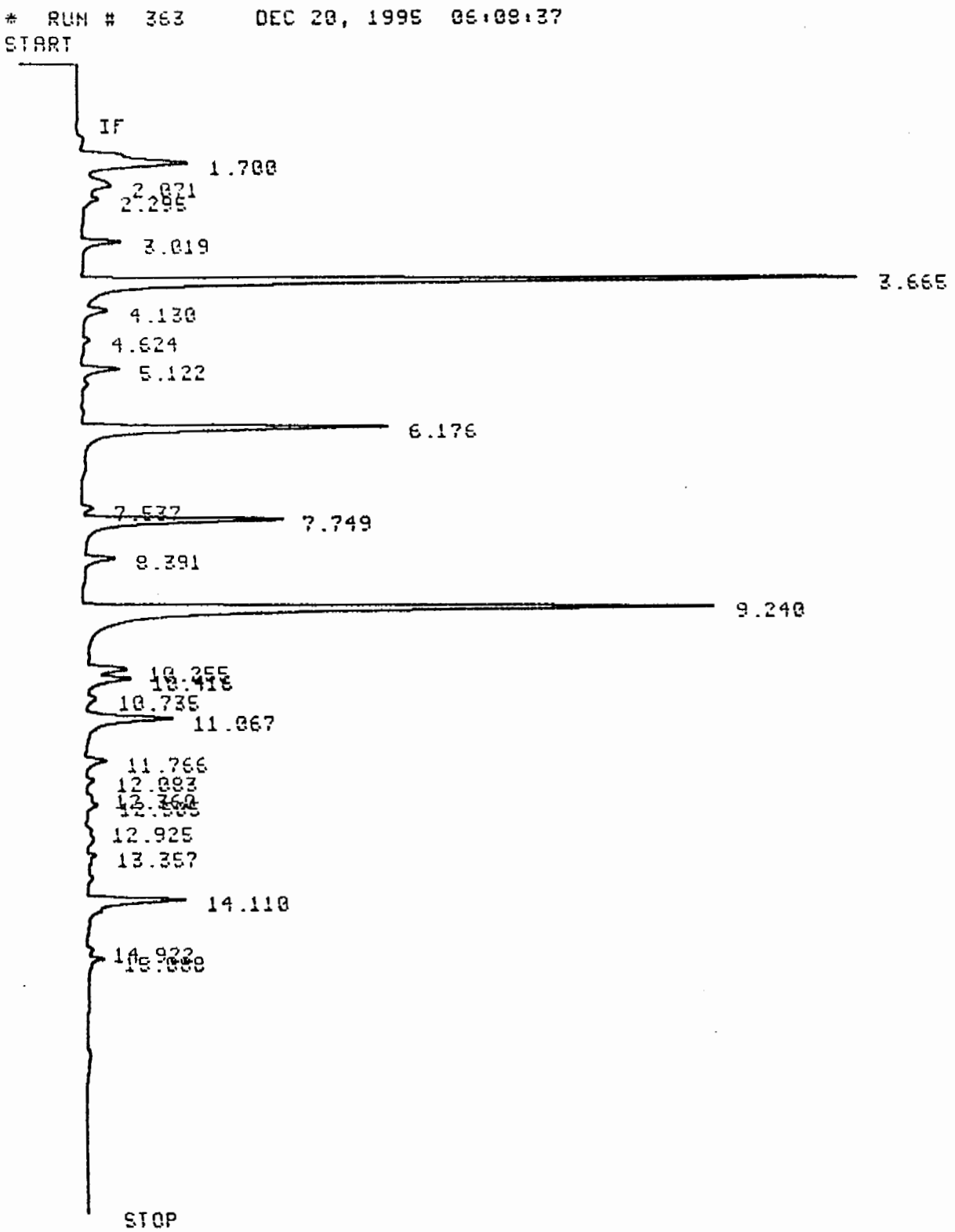
Interface Serial # : NONE Data Acquisition Time: 12/31/95 03:17 PM
Delay Time : 0.00 min.
End Time : 15.34 min.
Sampling Rate : 2.5000 pts/sec

Raw Data File : C:\TC4\DATA\DATA4\B119002A.RAW
Result File : C:\TC4\DATA\DATA4\B119001Y.RST
Inst Method : C:\TC4\GC2\GC2_2887 from C:\TC4\DATA\DATA4\B119001Y.RST
Proc Method : C:\TC4\GC2\GC2_2887
Calib Method : C:\TC4\GC2\GC2_2887
Sequence File : C:\TC4\GC2\GC2D2887.SEQ

Sample Volume : 1 uL Area Reject : 1000.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

ASTM-D-2887 Carbon Chain

Component Name	Time [min]	Area [µV·s]	Area [%]	Response Factor	Raw Amount	Amount [%]	Adjusted Amount
	1.21	1953	0.92	796	2.45	0.92	2
C8	1.51	1848	0.87	796	2.32	0.87	2
C8-C9	2.76	45621	21.50	796	57.31	21.50	57
C10 - C11	4.79	59374	27.98	796	74.59	27.98	75
C12 - C13	6.31	20294	9.56	796	25.49	9.56	25
C24 - C27	12.40	81355	38.34	796	102.21	38.34	102
C32 - C35	14.95	1741	0.82	796	2.19	0.82	2
		212185	100.00		266.56	100.00	267



MW-605

8020/8015 CHROMATOGRAM

RUN# 363 DEC 20, 1995 06:08:37

EPA 8020 / MODIFIED 8015 GASOLINE

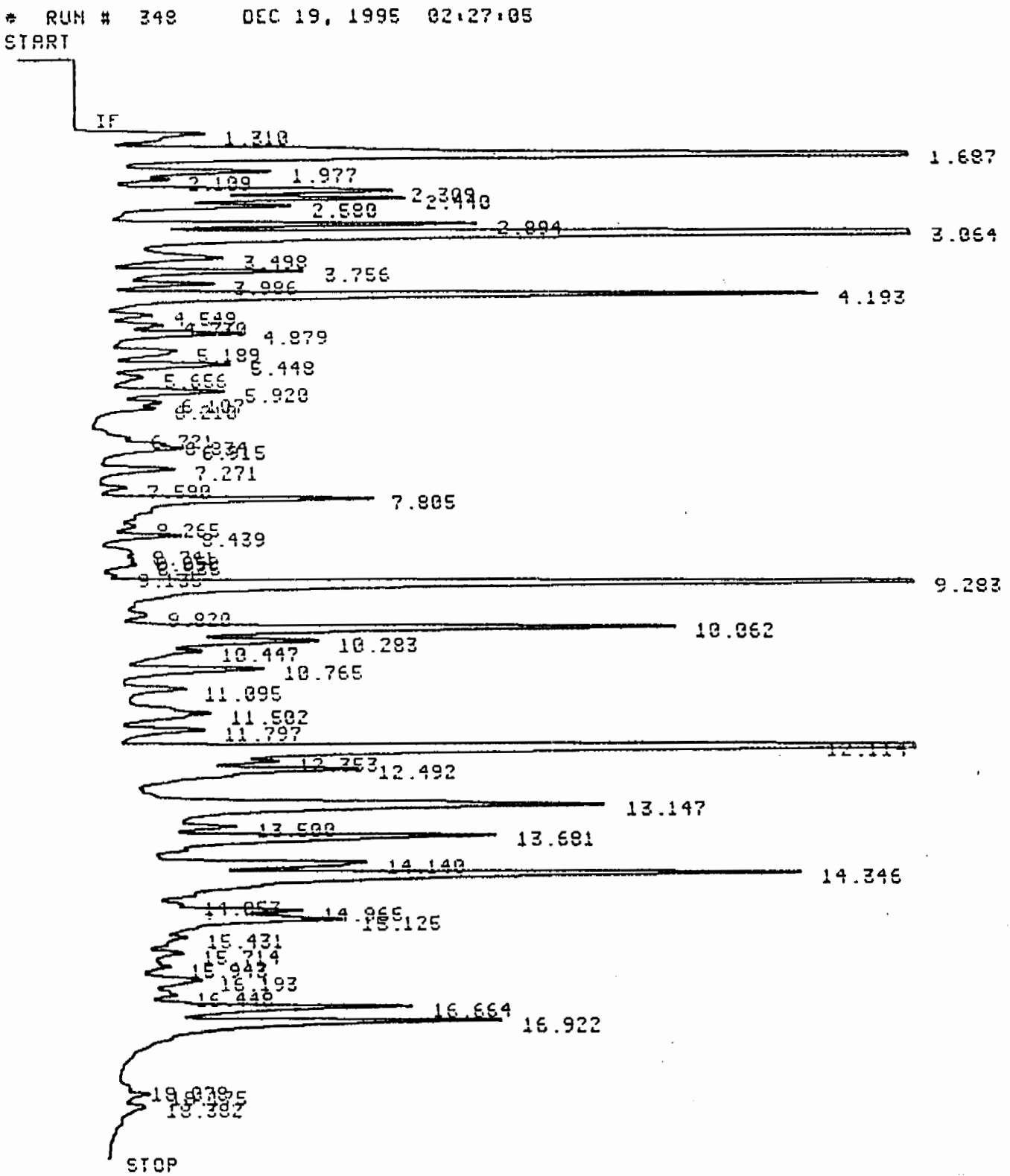
AREA%

RT	AREA	TYPE	WIDTH	AREA%
1.700	187825	HH	.190	6.67697
2.071	61432	HH	.205	2.18384
2.295	30620	HH	.157	1.08851
3.019	43841	HH	.113	1.55858
3.665	617210	HH	.091	21.94112
4.130	44424	HH	.164	1.57922
4.624	13582	HH	.123	.48282
5.122	39326	HH	.111	1.39800
6.176	298328	HH	.109	10.60522
7.537	12540	HH	.102	.44578
7.749	211801	HH	.117	7.52929
8.391	39088	HH	.124	1.38953
9.240	687475	HH	.124	24.43896
10.255	50352	HH	.122	1.78996
10.416	61884	HH	.137	2.19991
10.735	22069	HH	.155	.78453
11.067	118422	HH	.145	4.20977
11.766	30028	HH	.138	1.06746
12.083	15193	HH	.130	.54009
12.360	10727	HH	.105	.38133
12.505	27112	HH	.189	.96380
12.925	10127	HH	.117	.36000
13.357	19373	HH	.160	.68869
14.110	124414	HH	.134	4.42278
14.922	12288	HH	.139	.43682
15.088	23548	HH	.124	.83710

TOTAL AREA-2813029
MUL FACTOR-1.0000E+00

MW-605

8020/8015 CHROMATOGRAM DATA



MW-607

8020/8015 CHROMATOGRAM

RUN# 348 DEC 19, 1995 02:27:05

EPA 8020 / MODIFIED 8015 GASOLINE

AREA%

RT	AREA	TYPE	WIDTH	AREA%
1.310	200248	HH	.163	.93196
1.687	1382661	HH	.132	6.43491
1.977	215126	HH	.116	1.00120
2.109	71652	HH	.092	.33347
2.309	346794	HH	.117	1.61398
2.448	290103	HH	.094	1.35014
2.580	262593	HH	.129	1.22211
2.894	336321	HH	.090	1.56524
3.064	1988606	HH	.104	9.25498
3.498	281008	HH	.203	1.30781
3.756	265876	HH	.124	1.23739
3.986	141570	HH	.109	.65887
4.193	832792	HH	.122	3.87582
4.549	87924	HH	.123	.40920
4.730	95660	HH	.117	.44520
4.879	233335	HH	.149	1.08594
5.189	163179	HH	.174	.75944
5.448	192703	HH	.134	.89684
5.656	109735	HH	.176	.51071
5.920	184943	HH	.133	.86073
6.107	79125	HH	.100	.36825
6.210	114506	HH	.157	.53291
6.721	79538	HH	.159	.37017
6.834	65928	HH	.080	.30683
6.915	161205	HH	.164	.75025
7.271	134223	HH	.147	.62467
7.590	66468	HH	.143	.30934
7.805	344450	HH	.125	1.60307
8.265	75757	HH	.139	.35257
8.439	125874	HH	.131	.58582
8.741	83554	HH	.163	.38886
8.850	44156	HH	.084	.20550
8.935	71469	HH	.131	.33262
9.135	34831	HH	.096	.16210
9.283	1238015	HH	.128	5.76173
9.820	105678	HH	.166	.49193
10.062	693325	HH	.126	3.22674
10.283	298799	HH	.134	1.39061
10.447	222705	HH	.194	1.03647
10.765	262427	HH	.152	1.22134
11.095	177299	HH	.180	.82515
11.502	327010	HH	.268	1.52191
11.797	197572	HH	.170	.91950
12.114	1605341	HH	.114	7.47126
12.353	186528	HH	.101	.86810
12.492	519348	HH	.201	2.41705
13.147	1020052	HH	.211	4.74732
13.500	212155	HH	.146	.98737

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8020/8015 CHROMATOGRAM DATA

13.681	573687	HH	.149	2.66994
14.140	414505	HH	.156	1.92911
14.346	1095510	HH	.165	5.09851
14.953	95018	HH	.101	.44221
14.965	222956	HH	.108	1.03764
15.125	517837	HH	.214	2.41082
15.431	128595	HH	.132	.59844
15.714	147127	HH	.159	.68473
15.943	106419	HH	.132	.49527
16.193	237072	HH	.215	1.10333
16.448	141974	HH	.165	.66075
16.664	490773	HH	.161	2.28406
16.922	795971	HH	.205	3.70445
18.078	77479	HH	.195	.36059
18.175	93552	HH	.155	.43539
18.382	118278	HH	.215	.55047

TOTAL AREA-2.1487E+07

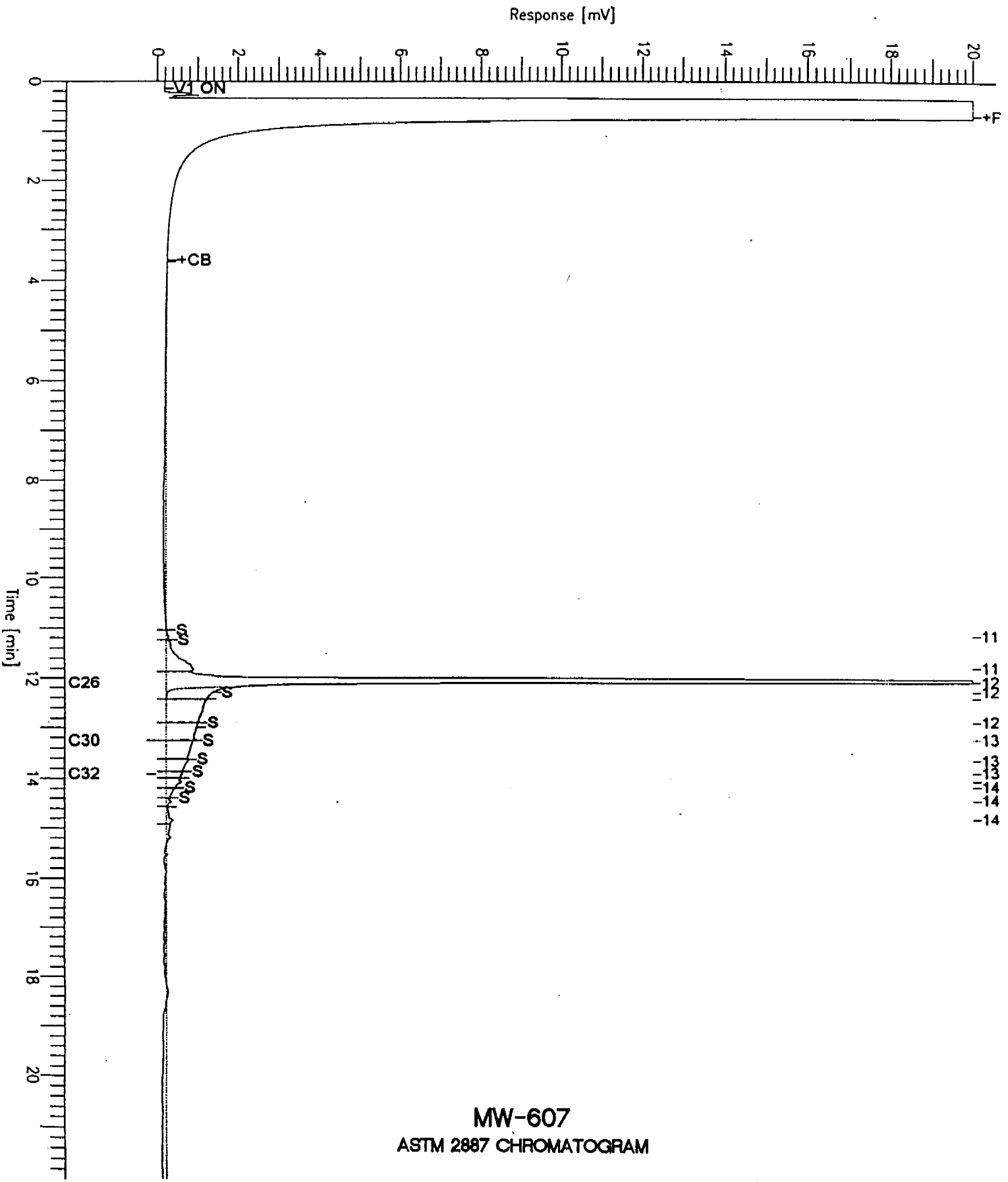
MW-607

8020/8015 CHROMATOGRAM DATA

Chromatogram

Sample Name : MW-607 (A2446-2)
FileName : C:\TC4\DATA\DATA4\A2446AAE.RAW
Method :
Start Time : 0.00 min End Time : 21.99 min
ple Factor: 0.0 Plot Offset: 0 mV

Sample #: 104
Date : 12/18/95 10:29 AM
Time of Injection: 12/18/95 09:59 AM
Low Point : 0.00 mV High Point : 20.00 mV
Plot Scale: 20.0 mV



MW-607

ASTM 2887 CHROMATOGRAM

Software Version: 4.0<1C29>
Sample Name : MW-607 (A2446-2) Time : 12/18/95 10:28 AM
Sample Number: 104 Study : TRI HYDRO
Operator :

Instrument : GC2 Channel : A A/D mV Range : 1000
AutoSampler : NONE
Rack/Vial : 30469/5

Interface Serial # : NONE Data Acquisition Time: 12/18/95 09:59 AM
Delay Time : 0.00 min.
End Time : 21.99 min.
Sampling Rate : 2.5000 pts/sec

Raw Data File : C:\TC4\DATA\DATA4\A2446AAE.RAW
Result File : C:\TC4\DATA\DATA4\A2446AAE.RST
Inst Method : C:\TC4\GC2\GC2_2887 from C:\TC4\DATA\DATA4\A2446AAE.RST
Proc Method : C:\TC4\GC2\GC2_2887 from C:\TC4\DATA\DATA4\A2446AAE.RST
Calib Method : C:\TC4\GC2\GC2_2887 from C:\TC4\DATA\DATA4\A2446AAE.RST
Sequence File : C:\TC4\GC2\GC2D2887.SEQ

Sample Volume : 1 uL Area Reject : 1000.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

ASTM-D-2887 Carbon Chain

Component Name	Time [min]	Area [µV·s]	Area [%]	Response Factor	Raw Amount	Amount [%]	Adjusted Amount
C24 - C27	12.05	266358	85.70	629	423.46	85.70	423
C28 - C31	13.30	34416	11.07	629	54.72	11.07	55
C32 - C35	14.50	10032	3.23	629	15.95	3.23	16
		310805	100.00		494.13	100.00	494

MW-607
ASTM 2887 CHROMATOGRAM DATA